

NASA

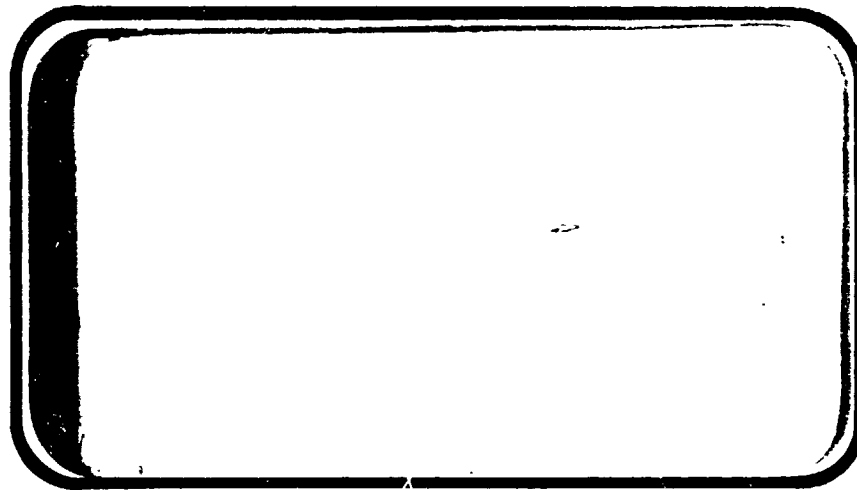
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

N74-13584

Unclas
24414

G3/31

(NASA-CR-138797) EFFECTS OF THE AIR
BREATHING PROPULSION SYSTEM ON SPACE
SHUTTLE ORBITER SUBSONIC STABILITY AND
CONTROL CHARACTERISTICS (OA71A) (Chrysler
Corp.) 141 p HC \$9.25 CSCL 22B



SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



**CHRYSLER
CORPORATION**

November, 1973

DMS-DR-2068
NASA CR-138,797

EFFECTS OF THE AIR BREATHING PROPULSION SYSTEM
ON SPACE SHUTTLE ORBITER SUBSONIC
STABILITY AND CONTROL CHARACTERISTICS (OA71A)

By

Robert Mennell
Rockwell International

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: NAAL 708
NASA Series No.: OA71A
Test Date: 27 July thru 3 August 1973

FACILITY COORDINATOR:

R. B. Russell
Rockwell International B-1 Division
Los Angeles International Airport
Los Angeles, California 90009

Phone: (213) 670-9151 - X-3343

PROJECT ENGINEER:

R. C. Mennell
Rockwell International
Los Angeles International Airport
Los Angeles, California 90009

Phone: (213) 670-9151 - X-3343

DATA MANAGEMENT SERVICES:

This document has been prepared by:

for D. A. Sarver
Liaison Operations

R. J. Burst

W. M. Hale
Data Operations

William M. Hale Jr.

This document has been reviewed and is approved for release.

for R. N. D. Kemp
Data Management Services

J. J. Flynn

Chrysler Corporation Space Division assumes no responsibility for the data presented herein other than its display characteristics.

EFFECTS OF THE AIR BREATHING PROPULSION SYSTEM
ON SPACE SHUTTLE ORBITER SUBSONIC
STABILITY AND CONTROL CHARACTERISTICS (OA71A)

By

Robert Mennell
Rockwell International

ABSTRACT

Experimental aerodynamic investigations were conducted on an 0.0405 scale representation of the -89B (2A) Space Shuttle Orbiter in the Rockwell International 7.75 x 11.00 Foot Low Speed Wind Tunnel during the time period from July 27, 1973 to August 3, 1973. The NASA designation for this test series was OA71A.

The primary test objective was to investigate the aerodynamic effects of engine nacelle grouping and location on the orbiter ferry mission configuration. Five nacelles were tested, both individually mounted as well as mounted in a "podded" configuration, at the baseline position and moved 45.0 inches aft (full scale).

Orbiter control effectiveness, both with and without nacelles, was recorded at elevon deflections of 0° , 5° , 10° , -10° and -20° and aileron deflections, about 0° elevon, of 0° , 5° , 10° , and 15° . The model was sting mounted on a 2.5 inch diameter internal strain gage balance entering through the base region. The nominal angle of attack range was $-4^\circ \leq \alpha \leq 30^\circ$. Yaw polars were recorded over the beta range of $-10^\circ \leq \beta \leq 10^\circ$ at fixed angles of attack of 0° and 10° .

(THIS PAGE INTENTIONALLY LEFT BLANK)

TABLE OF CONTENTS

	<u>PAGE</u>
ABSTRACT	iii
INDEX OF MODEL FIGURES	2
INDEX OF DATA FIGURES	3
NOMENCLATURE	5
CONFIGURATIONS INVESTIGATED	9
TEST FACILITY DESCRIPTION	11
DATA REDUCTION	12
TABLES	
I. TEST CONDITIONS	14
II. DATA SET/RUN NUMBER COLLATION SUMMARY	15
III. DIMENSIONAL DATA	18
FIGURES	
MODEL	28
DATA	36
APPENDIX - TABULATED SOURCE DATA	

INDEX OF MODEL FIGURES

<u>FIGURE</u>	<u>TITLE</u>	<u>PAGE</u>
1	Axis Systems.	28
2	Model Sketches.	
	a. General arrangement -89B Orbiter.	29
	b. Sign convention for control surfaces.	30
3	Model Photographs	
	a. Front view NAAL installation ABPS off B ₁₆ C ₅ D ₇ F ₁ W ₈₇ E ₁₈ V ₃ R ₃	31
	b. Front view NAAL installation single nacelles B ₁₆ C ₅ D ₇ F ₁ J ₁₇ W ₈₇ E ₁₈ V ₃ R ₃	32
	c. Rear view NAAL installation single nacelles B ₁₆ C ₅ D ₇ F ₁ J ₁₇ W ₈₇ E ₁₈ V ₃ R ₃	33
	d. Front view NAAL installation podded nacelles B ₁₆ C ₅ D ₇ F ₁ J ₁₄ W ₈₇ E ₁₈ V ₃ R ₃	34
	e. Rear view NAAL installation podded nacelles B ₁₆ C ₅ D ₇ F ₁ J ₁₄ W ₈₇ E ₁₈ V ₃ R ₃	35

INDEX OF DATA FIGURES

TITLE	PLOTTED COEFFICIENTS SCHEDULE	CONDITIONS VARYING	PAGE
Elevon Effectiveness -89B Ferry Configuration - ABPS Off J14 ABPS J14 ABPS Moved Aft J17 ABPS J17 ABPS Moved Aft	(A)	ELEVON, CONFIGURATION	1-10 11-20 21-30 31-40 41-50
Aileron Effectiveness -89B Ferry Configuration - ABPS Off J14 ABPS J14 ABPS Moved Aft J17 ABPS J17 ABPS Moved Aft	(B)	AILRON, CONFIGURATION	51-53 54-56 57-59 60-62 63-65
Aileron Derivative -89B Ferry Configuration - ABPS Off J14 ABPS J14 ABPS Moved Off J17 ABPS J17 ABPS Moved Off	(C)	DELTA AILRON, CONFIGURATION	66-68 69-71 72-74 75-77 78-80
Lateral-Directional Characteristics -89B Ferry Configuration - ABPS Off J14 ABPS J14 ABPS Moved Off J17 ABPS J17 ABPS Moved Off	(D)	ALPHA, NACX/L, CONFIGURATION	81-83 84-86 87-89 90-92 93-95

INDEX OF DATA FIGURES (Concluded)

PLOTTED COEFFICIENTS SCHEDULE:

- (A) CL, CN, CAF, CAB, CDF, CIM vs. ALPHA
CL vs. CIM; CL vs. CDF; XCP/L, L/DF vs. ALPHA
- (B) CY, CYN, CBL vs. ALPHA
- (C) DCY/DA, DCYNDA, DCBLDA vs. ALPHA
- (D) CY, CYN, CBL vs. BETA

NOMENCLATURE

General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
\bar{l}_{REF} \bar{c}	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - p_n)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$
C_l	CTL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$
L/D_f	L/DF	lift to forebody drag ratio, C_L/C_{D_f}

NOMENCLATURE (Continued)
 ADDITIONS TO NOMENCLATURE

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
A_{BC}	ABC	balance cavity area, ft. ²
CA_{BC}	CABC	balance cavity axial force coefficient.
CA_N	CAN	coefficient of axial force due to nacelle internal duct drag.
CA_T	CAT	model axial force weight tare coefficient.
C_{mN}	CLMN	coefficient of pitching moment due to nacelle internal duct drag.
$C_{l\delta_a}$	DCBLDA	rolling moment coefficient aileron derivative, per degree.
$C_{n\delta_a}$	DCYNDA	yawing moment coefficient aileron derivative, per degree.
$C_{Y\delta_a}$	DCY/DA	side force coefficient aileron derivative, per degree.
L_B	LB	orbiter fuselage length, ft.
$P_{b1}, P_{b2}, P_{b3}, P_{b4}, P_{b5}$		model base pressures at orifice numbers 1 - 5, respectively, psia.
P_{BC}		model balance chamber pressure, psia.
NAC X/L	NACX/L	air breathing engine nacelle longitudinal location, fraction of body length, positive aft of nominal position.
XCP/L	XCP/L	longitudinal center of pressure location, fraction of body length.
δ_a	AILRON	aileron deflection angle, degrees.
δ_e	ELEVON	elevon deflection angle, degrees.
δ_r	RUDDER	rudder deflection angle, positive deflection, trailing edge left; degrees.

NOMENCLATURE (Concluded)

<u>SYMBOL</u>	SADSAC <u>SYMBOL</u>	<u>DEFINITION</u>
δ_{SB}	SPDBRK	speed brake deflection angle, degrees.
δ_F	BDFLAP	flap, surface deflection angle, positive deflection, trailing edge down; degrees.
δ_V	VTLINE	vertical tail incidence, positive when trailing edge left; degrees.
$\Delta\delta_a$	DAILRN	incremental aileron deflection, degrees.

CONFIGURATION INVESTIGATION

The model used for this test period was an 0.0405 scale representation of the -89B (2A) Space Shuttle Orbiter. The basic model is of the blended wing-body design utilizing a double delta wing ($75^\circ/45^\circ \wedge$ LE), full span elevons (unswept hingeline), a centerline vertical tail with rudder and for rudder flare capability, a canopy, and a manipulator arm housing. To complete this orbiter ferry configuration air breathing engine nacelles were located in various groupings and locations on the wing and fuselage as per VL73-000054A.

All model components were per the -89B configuration except for the fuselage lines from station 130' aft and the various engine nacelle groupings and locations.

The orbiter model was constructed either of wood and/or aluminum and was mounted on the Task Corporation 2.5 inch MK IX internal strain gage balance. The following nomenclature was used to designate the various model components:

<u>Component</u>	<u>Description</u>
B16	-89B fuselage
C5	-89B canopy
D7	-89B manipulator arm housing
E18	Full span elevon used on wing W87
F1	Body flap used on fuselage B16
J14	Air breathing propulsion system consisting of two podded nacelles and one \bar{c} nacelle

CONFIGURATIONS INVESTIGATED (Concluded)

<u>Component</u>	<u>Description</u>
J17	Air breathing propulsion system consisting of five individual nacelles.
R3	Rudder used on vertical tail V3.
V3	ATP centerline vertical tail.
W87	-89B double delta wing ($75^{\circ}/45^{\circ}/\text{LE}$).
X9	Transition grit located on model nose and all swept surfaces.
X10	Transition grit located on model nose, all swept surfaces, and ABPS nacelles.

TEST FACILITY DESCRIPTION

The North American Aerodynamics Laboratory (NAAL) 7.75 x 11-Foot Wing Tunnel is a continuous flow, closed circuit, single return type tunnel capable of speeds up to 200 miles per hour. The test section is vented to atmospheric pressure and is 7.75 x 11 feet wide by 12 feet in length. Power is supplied by a 1250 horsepower nacelle mounted synchronous motor driving a 19 foot, seven blade, laminated birch propeller. The airspeed is controlled by varying the degree of coupling between the motor and propeller by means of a magnetic clutch. A damping screen and honeycomb section in the settling chamber upstream from the contraction cone (ratio 7.53 to 1) minimizes turbulence in the test section. The NAAL Wind Tunnel has been in operation since June 1943 and calibrations are available over a wide range of test conditions.

Tests may be conducted using a variety of mounting systems, e.g.; a single strut, double strut, sting strut, reflection plane, cable suspension, and two dimensional wall. Aerodynamic data may be measured by a planar type external balance system or sting mounted internal balances. An Astrodata Automatic Data Acquisition System is used to collect, multiplex, digitize, and record 50 channels of force and/or pressure data on magnetic tape. This data is then rapidly reduced and plotted using automatic data processing equipment and an automatic digital plotter.

DATA REDUCTION

The aerodynamic force and moment data presented were measured by the Task Corporation 2.5 inch MK IX strain gage balance. The data have been corrected for model base and balance chamber pressure effects, nacelle internal drag, model blockage influence on tunnel dynamic pressure, wall interference effects, sting and balance deflections, and model weight tare.

The corrections to axial force were accomplished in the following manner:

$$C_{Af} = C_A - C_{ABC} - C_{AB} - C_{AN} - C_{AT}$$

where:

$$C_{ABC} = -\left(\frac{P_{BC} - P_S}{q}\right) \left(\frac{A_{BC}}{S}\right)$$

$$\text{and: } C_{AB} = -\left(\frac{P_b - P_S}{q}\right) \left(\frac{A_b}{S}\right), \quad P = 1/5 (P_{b1} + \dots + P_{b5})$$

C_{AN} = Nacelle internal drag correction.

C_{AT} = Model axial force weight tare.

The following reference dimensions were used for reducing the aerodynamic data to coefficient form:

<u>Symbol</u>	<u>Definition</u>	<u>Value</u>
A_b	Area of base, ft ²	0.51939
A_{BC}	Area of balance cavity, ft ²	0.13635
$S(SREF)$	Area of wing, ft ²	4.4123
$XMRP$	Center of gravity, fus. sta.	43.5974
$ZMRP$	Center of gravity, waterplane	16.2000

DATA REDUCTION (Concluded)

<u>Symbol</u>		<u>Definition</u>	<u>Value</u>
L_B		Length orbiter body, in.	53.7840
\bar{c} (LREF)		Wing MAC, in.	19.2300
b (BREF)		Wing span, in.	37.9350
C_{A_N}	=	Axial force correction due to J_{14} nacelle	0.00206
		Axial force correction due to J_{17} nacelle	0.00206
C_{m_N}	=	Pitching moment correction due to J_{14} nacelle	0.000670
		Pitching moment correction due to J_{17} nacelle	0.000665

TABLE I.

[illegible]

TEST: OATIA - NAAL 703	DATE: 8/6/73
TABLE II.	
DATA SET/RUN NUMBER COLLATION SUMMARY	

TEST RUN NUMBER:													
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES							NO. OF RUNS	MACH NUMBERS	
		A	B	JF	Je	Ja	JR	JSB	JA.X/L				
RDS 001	BucSDnFiWntErBkRkX	A	O	-18	0	0	0	0	0	1		.20	
002		O	F									1	
003		10	I									2	
004		A	O		5							3	
005					0	5						4	
006					-10	0						5	
007					0	10						6	
008					10	0						7	
009					-20							8	
010					0	15						10	
U11	BucSDnFiWntErBkRkXp								0			11	
012					-20	0						12	
013					10							13	
014					0	10						14	
015					-10	0						15	
016					0	5						16	
017					5	0						17	
019					0							19	

	7	13	19	25	31	37	43	49	55	61	67	73	76
CL	IC	DE	CL	M	EN	CAF	CYN	CBL	CY	XCP/L	CAB	MACH	
													75.76

α OR β
 SCHEDULES

$d(A) = -4, -2, -1, 0, 1, 2 \rightarrow 35$, COEFFICIENTS
 $B(F) = -10, -5, 0, 5, 10$, $\Delta\alpha = 2^\circ$

10 APR 11 12 44.12 N.C.

TABLE II. (Continued)

TEST: DATA - NAAL TDB

DATE: 3/6/73

DATA SET/RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES						NO. OF RUNS	MACH NUMBERS	
		α	β	δF	δc	δa	δR	δSB	$MACH$			
020	BULLSDTFF-JUN-NOT-ENG-V6-R3-X10	0	F	-18	0	0	0	0	0	1		20
021		10										21
022		A	0									22
023										.20		23
024		0	F									24
025		10										25
026		A	0		5							26
027						5						27
028					-10	0						28
029												29
030					0	10						30
031					10	0						31
032					-20							32
033					0	15						33
035	BULLSDTFF-JUN-NOT-ENG-V6-R3-X10											35
037					-20	0						37
038					10							38
039					0	10						39

75 76 67 61 55 49 43 37 31 25 19 13 7

IC, AR (1) IC, AR (2) IC, C

COEFFICIENTS
 $\alpha(A) = -4, -2, -1, 0, 1, 2 \rightarrow 30$
 $\beta(F) = -10, -5, 0, 5, 10$

α OR β
SCHEDULES

TABLE II. (Concluded)

TEST: DATA - NAAL 70B										DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 3/6/73									
DATA SET IDENTIFIER		CONFIGURATION		SCHD.		PARAMETERS/VALUES						NO. OF RUNS		MACH NUMBERS		TEST RUN NUMBERS													
				α β		δF	$\delta \theta$	δa	δb	δc	δd	δe	δf	δg	δh														
RDS 040		BLS 50 F Jm K 7 E 40 K 3 R 3 X 0		A 0		-1B	-10	0	0	0	0	0	0	0	0	1													
041							0	5									40												
042							5	0									41												
043							0	0									42												
044				0 F													43												
045				10													44												
046				A 0													45												
047				0 F													46												
048				10													47												
049				A 0			5										48												
050							0	5									49												
051							-10	0									50												
052							0	10									51												
054							10	0									52												
056							-20										53												
057							0	15									54												
																	55												
																	56												
																	57												

COEFFICIENTS

$$\alpha(A) = -4, -2, -1, 0, 1, 2 \rightarrow 20^\circ, \Delta\alpha = 2^\circ$$

$$\beta(F) = -10, -5, 0, 5, 10$$

α OR β
SCHEDULES

10 APR 11 10 48 12

TABLE III.
DIMENSIONAL DATA

MODEL COMPONENT: BODY - B16

GENERAL DESCRIPTION: -89B FUSELAGE

SCALE MODEL = 0.0405

DRAWING NUMBER: VL72-0000B7

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length ~IN.	<u>1328.30</u>	<u>53.796</u>
Max. Width	<u> </u>	<u> </u>
Max. Depth ~IN.	<u>246.00</u>	<u>10.044</u>
Fineness Ratio	<u> </u>	<u> </u>
Area ~ft ²		
Max. Cross-Sectional	<u>355.28</u>	<u>0.583</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. (Continued)

MODEL COMPONENT: CANOPY C5GENERAL DESCRIPTION: -89B CANOPYSCALE MODEL = 0.0405DRAWING NUMBER: VL70-000092

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	_____	_____
Max. Width	_____	_____
Max. Depth	_____	_____
Fineness Ratio	_____	_____
Area		
Max. Cross-Sectional	_____	_____
Planform	_____	_____
Wetted	_____	_____
Base	_____	_____
STA. FWD. BULKHEAD, fus. sta.	391.00	15.836
STA. T.E. , fus. sta.	560.00	22.680

TABLE III. (Continued)

MODEL COMPONENT: MANIPULATOR ARM HOUSING D7GENERAL DESCRIPTION: -B9B MAHSCALE MODEL = 0.0405

DRAWING NUMBER: _____

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length ~ IN.	<u>881.00</u>	<u>35.681</u>
Max. Width ~ IN.	<u>51.00</u>	<u>2.066</u>
Max. Depth ~ IN.	<u>20.00</u>	<u>0.810</u>
Fineness Ratio	_____	_____
Area		
Max. Cross-Sectional	_____	_____
Planform	_____	_____
Wetted	_____	_____
Base	_____	_____
L.E. INTERSECTS FUS. @ STA.	<u>426.00</u>	<u>17.253</u>
T.E. INTERSECTS FUS. @ STA.	<u>1307.00</u>	<u>52.934</u>

TABLE III. (Continued)

MODEL COMPONENT: BODY FLAP - F₁

GENERAL DESCRIPTION: BODY FLAP LOCATED ON LOWER AFT PORTION
OF FUSELAGE TRAILING EDGE

SCALE MODEL = 0.0405

DRAWING NUMBER: VL70-000003A

DIMENSIONS:

	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - <i>IN.</i>	<u>236.54</u>	<u>9.580</u>
Max. Width	<u> </u>	<u> </u>
Max. Depth	<u> </u>	<u> </u>
Fineness Ratio	<u> </u>	<u> </u>
Area ~ <i>ft²</i>		
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u>199.75</u>	<u>0.328</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
FLAP L.E. fus. sta., in	<u>1528.30</u>	<u>61.896</u>
FLAP T.E. fus. sta., in	<u>1650.56</u>	<u>66.848</u>

TABLE III. (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM J14GENERAL DESCRIPTION: FIVE UNDERWING NACELLES - TWO TWIN
PODDER PLUS ONE ON BOTTOM CENTERLINE, 12 INCH
DIVERTER USED ON TWIN PODSSCALE MODEL = 0.0405DRAWING NUMBER: VL70-000054ADIMENSIONS: PER NACELLEFULL-SCALEMODEL SCALE

Length - IN.

224.507.072

Max. Width - IN.

55.002.228

Max. Depth - IN.

55.002.228

Fineness Ratio

 Area - IN²

Max. Cross-Sectional

2377.103.879

CAPTURE

2043.603.352

Wetted (INTERNAL)

35993.3059.038

Base

 NACELLE STA 0.0 @OUTB'DINB'DCENTER

MODEL STATION - IN.

38.47538.47538.475

WATERPLANE - IN.

10.04110.0419.424THRUST LINE

BUTTOCK PLANE - IN

±11.583±8.9100.000

INCIDENCE - DEG.

3.9333.9333.933

TABLE III. (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM J17GENERAL DESCRIPTION: FIVE UNDERWING NACELLES - INDIVIDUAL NACELLE INSTALLATION.SCALE MODEL = 0.0405DRAWING NUMBER: SS-A00139

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - IN.	<u>224.50</u>	<u>9.092</u>
Max. Width - IN.	<u>55.00</u>	<u>2.228</u>
Max. Depth - IN.	<u>55.00</u>	<u>2.228</u>
Fineness Ratio	_____	_____
Area - IN ²		
Max. Cross-Sectional	<u>2377.10</u>	<u>3.879</u>
CAPTURE	<u>2043.60</u>	<u>3.352</u>
Wetted (INTERNAL)	<u>35973.30</u>	<u>59.058</u>
Base	_____	_____

<u>NACELLE STA. O.D @</u>	<u>OUTB'D</u>	<u>INB'D</u>	<u>CENTER</u>
MODEL STATION - IN.	40.500	36.450	38.475
WATERPLANE - IN.	10.250	9.533	9.434

<u>THRUST LINE</u>			
BUTTOCK PLANE - IN.	±12.920	±8.910	0.000
INCIDENCE - DEG.	3.933	3.933	3.933

TABLE III. (Continued)

MODEL COMPONENT: WING WB7GENERAL DESCRIPTION: DOUBLE DELTA WING (75/45° ALE)SCALE MODEL = 0.0405DRAWING NUMBER: VLT-000093DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area - ft^2		
Planform	<u>2689.38</u>	<u>4.411</u>
Wetted		
Span (equivalent) - ft	<u>77.17</u>	<u>3.125</u>
Aspect Ratio	<u>2.214</u>	<u>2.214</u>
Rate of Taper	<u>1.176</u>	<u>1.176</u>
Taper Ratio	<u>0.209</u>	<u>0.209</u>
Dihedral Angle, degrees @ $x/c = 75.33\%$	<u>3.861</u>	<u>3.861</u>
Incidence Angle, degrees	<u>3.000</u>	<u>3.000</u>
Aerodynamic Twist, degrees	<u>-</u>	<u>-</u>
Toe-In Angle	<u>-</u>	<u>-</u>
Cant Angle	<u>-</u>	<u>-</u>
Sweep Back Angles, degrees		
Leading Edge	<u>44.873</u>	<u>44.873</u>
Trailing Edge	<u>-10.242</u>	<u>-10.242</u>
0.25 Element Line	<u>35.050</u>	<u>35.050</u>
Chords - in		
Root (Wing Sta. 0.0)	<u>690.19</u>	<u>27.953</u>
Tip, (equivalent)	<u>144.30</u>	<u>5.844</u>
MAC	<u>476.76</u>	<u>19.309</u>
Fus. Sta. of .25 MAC	<u>1136.12</u>	<u>46.013</u>
W.P. of .25 MAC	<u>289.44</u>	<u>11.722</u>
B.L. of .25 MAC	<u>181.03</u>	<u>7.330</u>
Airfoil Section		
Root	<u>-</u>	<u>-</u>
Tip	<u>-</u>	<u>-</u>

EXPOSED DATA

Area - ft^2	<u>1746.87</u>	<u>2.865</u>
Span, (equivalent) - ft	<u>59.16</u>	<u>2.396</u>
Aspect Ratio	<u>2.004</u>	<u>2.004</u>
Taper Ratio	<u>0.256</u>	<u>0.256</u>
Chords - in		
Root	<u>562.77</u>	<u>22.792</u>
Tip	<u>144.30</u>	<u>5.844</u>
MAC	<u>394.81</u>	<u>15.990</u>
Fus. Sta. of .25 MAC	<u>1185.17</u>	<u>47.999</u>
W.P. of .25 MAC	<u>291.56</u>	<u>11.808</u>
B.L. of .25 MAC	<u>280.54</u>	<u>10.147</u>

LEADING EDGE CUFF
 PLATFORM AREA - ft^2
 L.E. INTERSECTS FUS. @ STA.
 L.E. INTERSECTS WING @ STA.

<u>121.42</u>	<u>0.199</u>
<u>560.00</u>	<u>22.860</u>
<u>1035.00</u>	<u>41.918</u>

TABLE III. (Continued)

MODEL COMPONENT: ELEVON F1BGENERAL DESCRIPTION: UNSWEEP HINGELINE ELEVON USED ON
WING WB7SCALE MODEL = 0.0405DRAWING NUMBER: VL70-000073

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - ft^2	<u>205.52</u>	<u>0.337</u>
Span (equivalent) - $IN.$	<u>353.34</u>	<u>14.310</u>
Inb'd equivalent chord - $IN.$	<u>114.78</u>	<u>4.649</u>
Outb'd equivalent chord - $IN.$	<u>55.00</u>	<u>2.223</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.208</u>	<u>0.208</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.000</u>	<u>0.000</u>
Tailing Edge	<u>-10.020</u>	<u>-10.020</u>
Hingeline	<u>0.000</u>	<u>0.000</u>
Area Moment (Normal to hinge line) ft^3	<u>1543.07</u>	<u>2.539</u>

TABLE III. (Continued)

MODEL COMPONENT: VERTICAL TAIL V3
 GENERAL DESCRIPTION: CENTERLINE VERTICAL TAIL WITH RUDDER
AND/OR SPEED BRAKE DEFLECTION CAPABILITY

SCALE MODEL = 0.0405

DRAWING NUMBER: _____

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area - ft^2		
Planform	<u>404.95</u>	<u>0.664</u>
BLANKETED (INC. ABOVE)	<u>32.05</u>	<u>0.052</u>
Span (equivalent) - IN.	<u>237.53</u>	<u>11.740</u>
Aspect Ratio	<u>1.565</u>	<u>1.565</u>
Rate of Taper	<u>0.504</u>	<u>0.504</u>
Taper Ratio	<u>0.434</u>	<u>0.434</u>
Diehedral Angle, degrees	<u>-</u>	<u>-</u>
Incidence Angle, degrees	<u>-</u>	<u>-</u>
Aerodynamic Twist, degrees	<u>-</u>	<u>-</u>
Toe-In Angle	<u>0.000</u>	<u>0.000</u>
Cant Angle	<u>0.000</u>	<u>0.000</u>
Sweep Back Angles, degrees		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.361</u>	<u>26.361</u>
0.25 Element Line	<u>41.150</u>	<u>41.150</u>
Chords: - IN.		
Root	<u>258.35</u>	<u>10.463</u>
Tip, (equivalent) W.P. 5.0.00	<u>112.12</u>	<u>4.541</u>
MAC W.P. 645.88	<u>194.66</u>	<u>7.892</u>
Fus. Sta. of .25 MAC	<u>1492.28</u>	<u>60.437</u>
W.P. of .25 MAC	<u>645.88</u>	<u>26.157</u>
B.L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil Section <u>5° HALF ANGLE DOUBLE WEDGE SECTION</u>		
Root	<u>_____</u>	<u>_____</u>
Tip	<u>_____</u>	<u>_____</u>

EXPOSED DATA

Area	<u>_____</u>	<u>_____</u>
Span, (equivalent)	<u>_____</u>	<u>_____</u>
Aspect Ratio	<u>_____</u>	<u>_____</u>
Taper Ratio	<u>_____</u>	<u>_____</u>
Chords	<u>_____</u>	<u>_____</u>
Root	<u>_____</u>	<u>_____</u>
Tip	<u>_____</u>	<u>_____</u>
MAC	<u>_____</u>	<u>_____</u>
Fus. Sta. of .25 MAC	<u>_____</u>	<u>_____</u>
W.P. of .25 MAC	<u>_____</u>	<u>_____</u>
B.L. of .25 MAC	<u>_____</u>	<u>_____</u>

TABLE III. (Concluded)

MODEL COMPONENT: RUDDER R₃GENERAL DESCRIPTION: RUDDER USED ON CENTERLINE VERTICAL
TAIL V₃.SCALE MODEL = 0.0405

DRAWING NUMBER: _____

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - ft^2	<u>115.63</u>	<u>0.190</u>
Span (equivalent) - in.	<u>223.34</u>	<u>9.045</u>
Inb'd equivalent chord - in.	<u>97.09</u>	<u>3.932</u>
Outb'd equivalent chord - in.	<u>52.02</u>	<u>2.107</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.889</u>	<u>34.889</u>
Tailing Edge	<u>26.361</u>	<u>26.361</u>
Hingeline	<u>34.889</u>	<u>34.889</u>
Area Moment (Normal to hinge line) - ft^3	<u>647.77</u>	<u>0.043</u>

Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrow
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

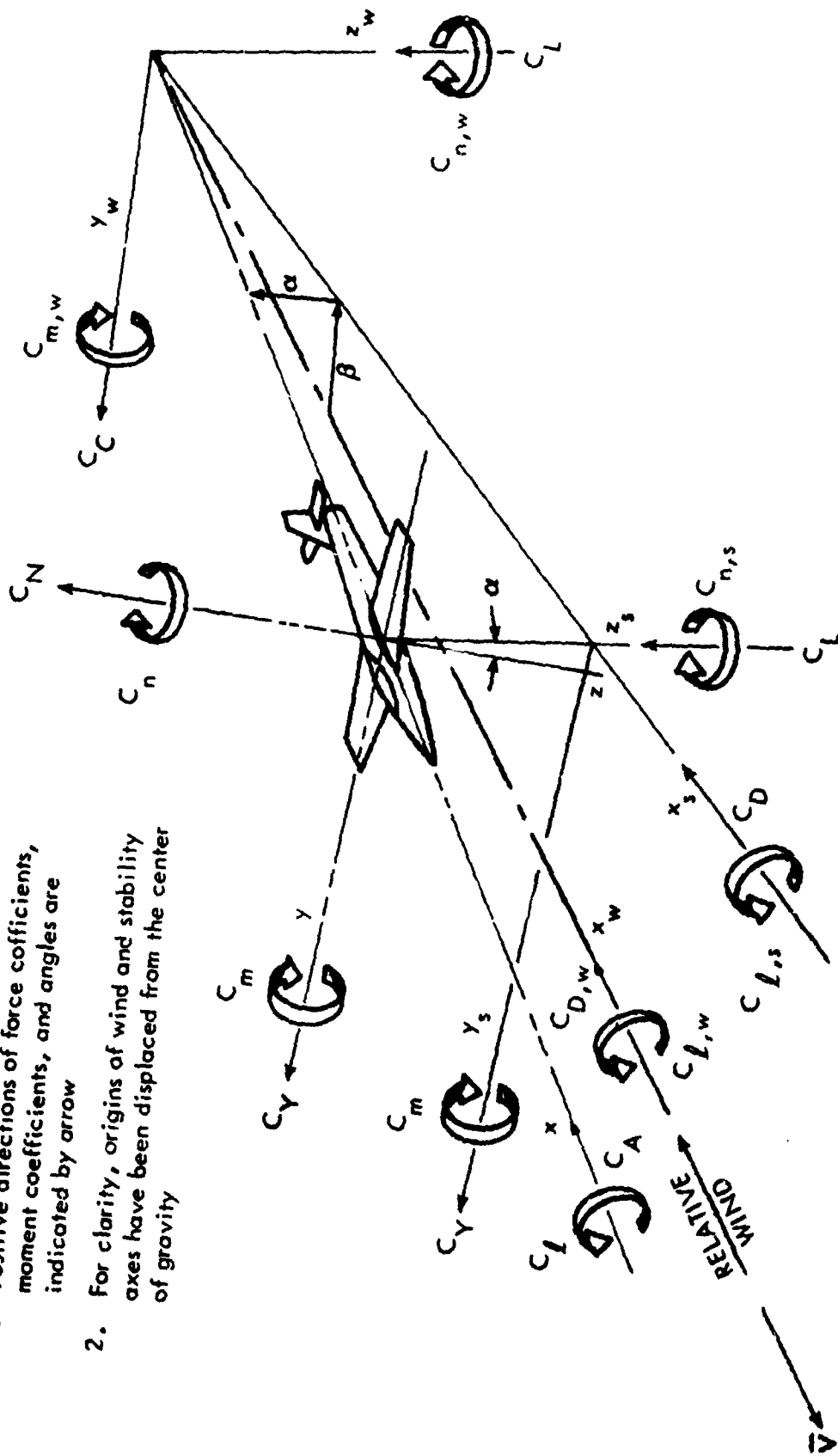
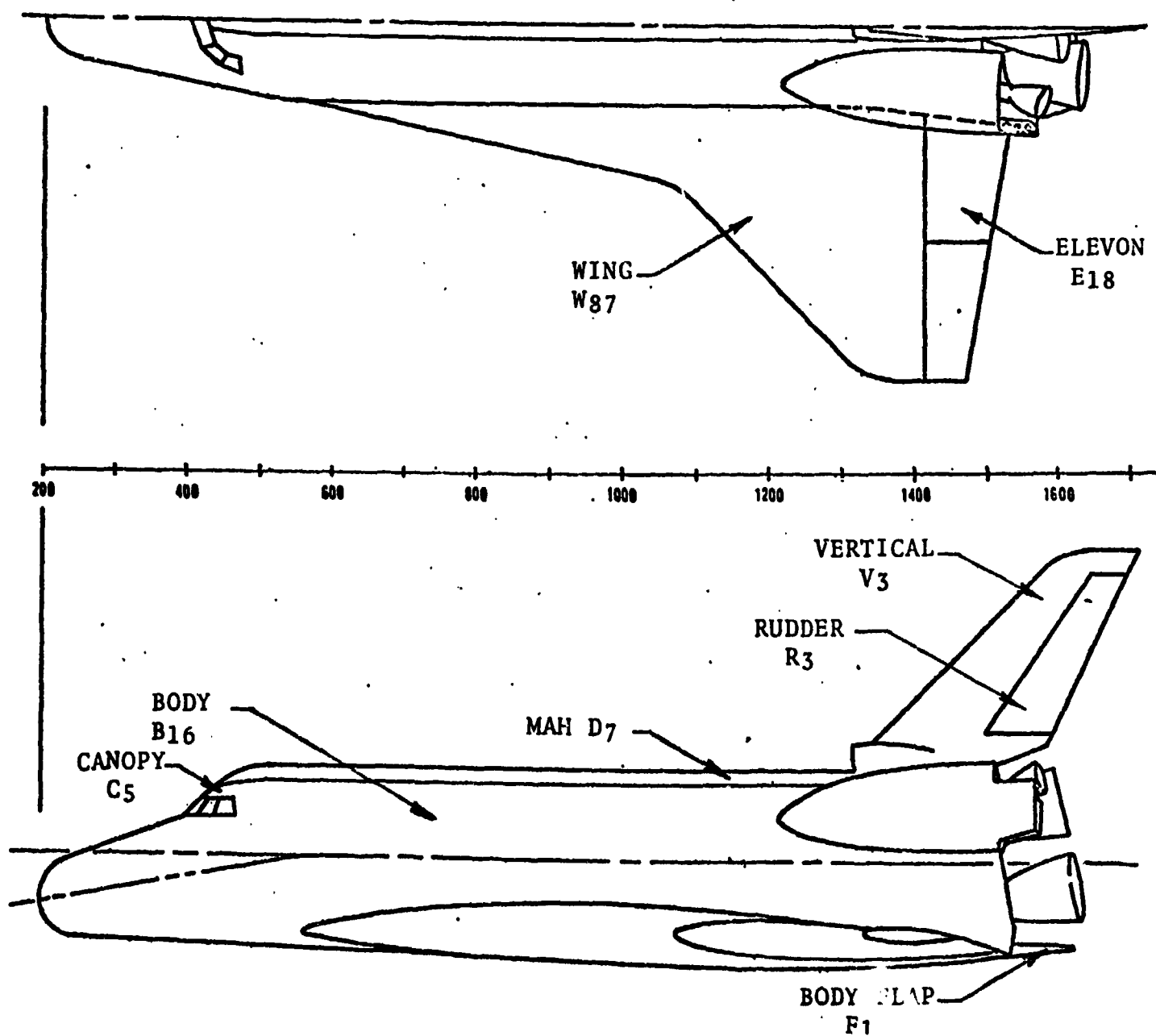


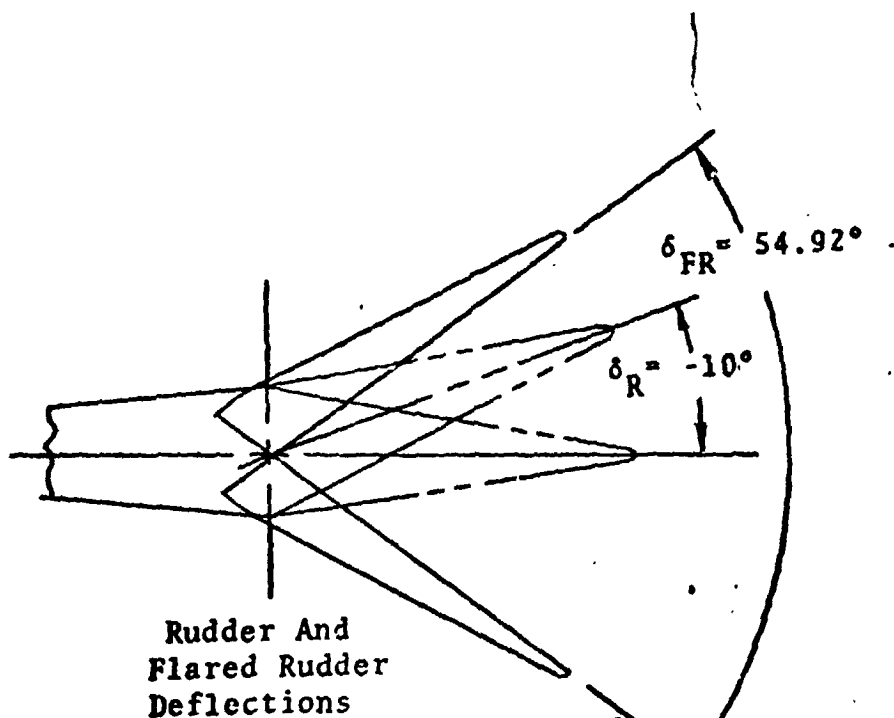
Figure 1. - Axis Systems.

S_w	=	2690.00 ft ²
C_w	=	474.81 in
b_w	=	936.68 in
C.G.X	=	1076.48 in
C.G.Z	=	400.00 in
LB	=	1328.00 in

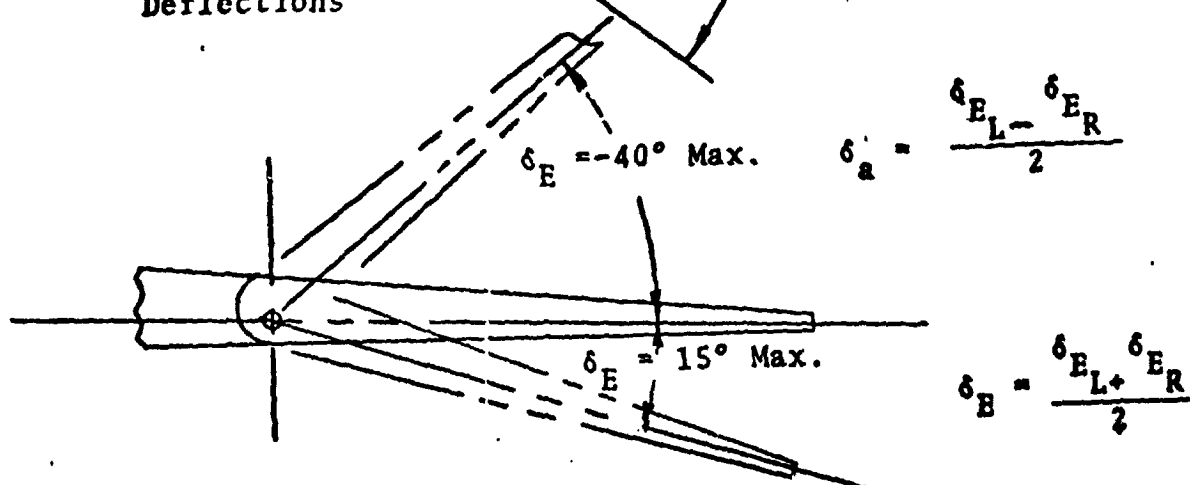


a. General arrangement -89B Orbiter

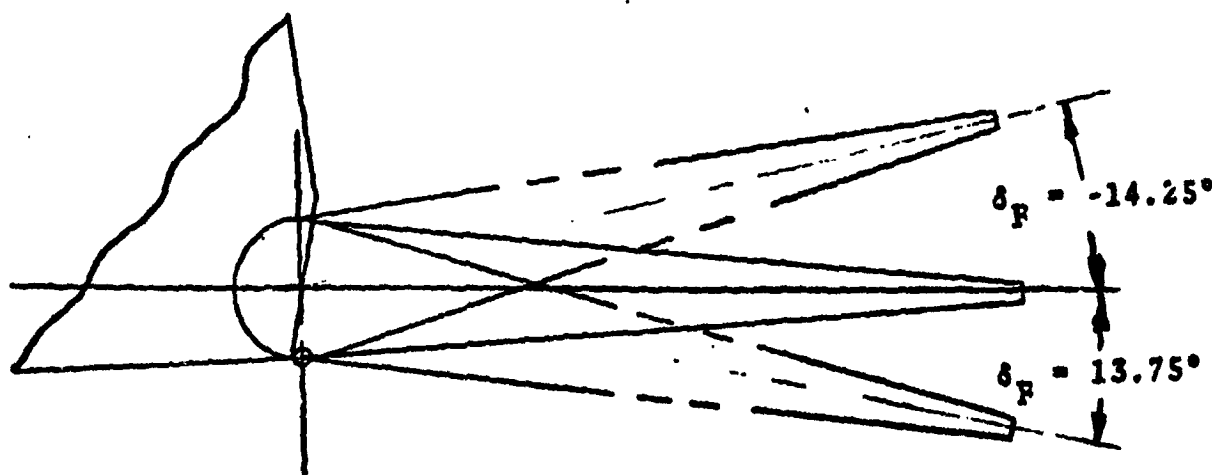
Figure 2. - Model Sketches.



Rudder And
Flared Rudder
Deflections



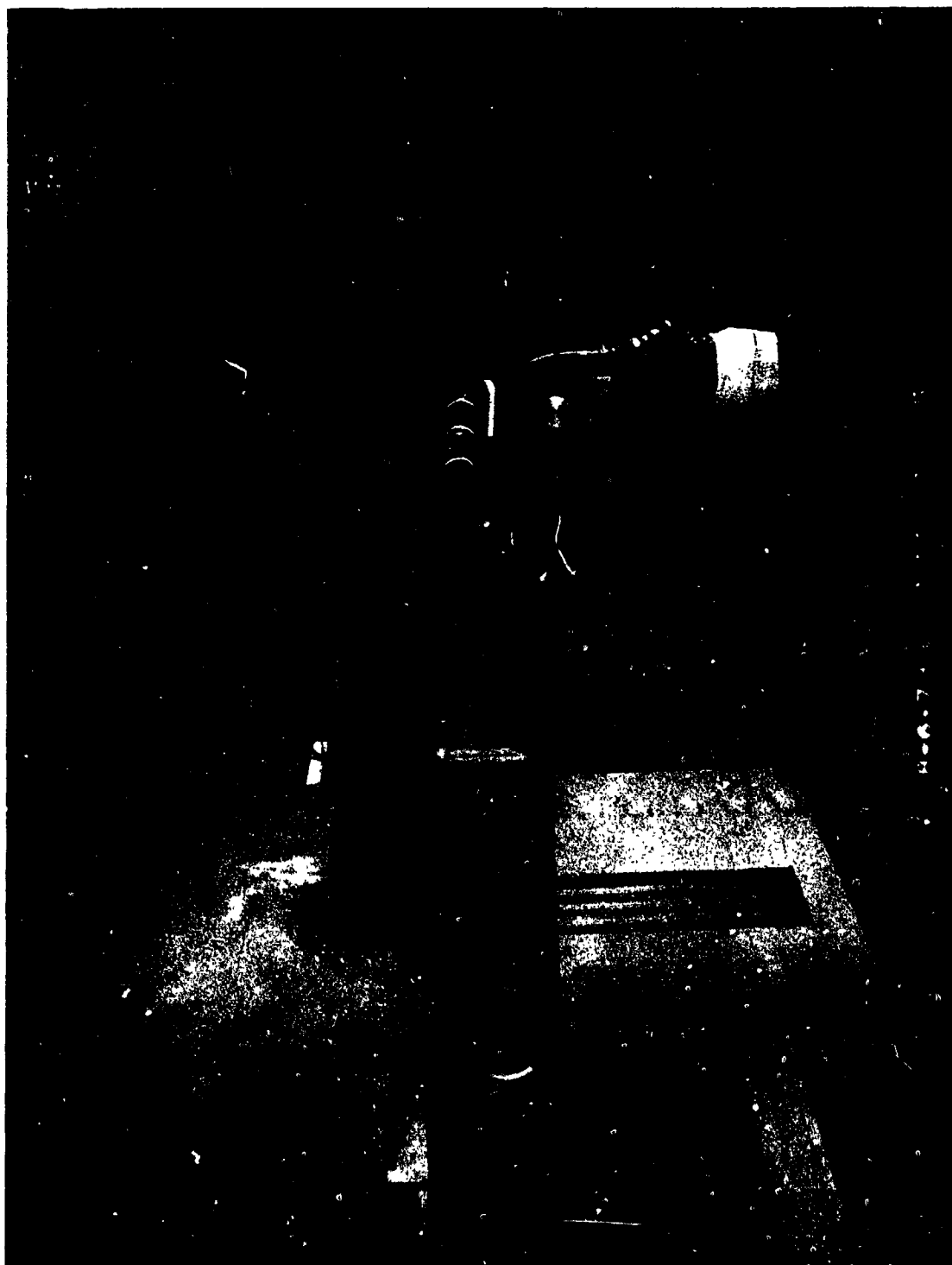
Aileron & Elevon Deflections



Body Flap Deflections

b. Sign convention for control surfaces

Figure 2. - Concluded.



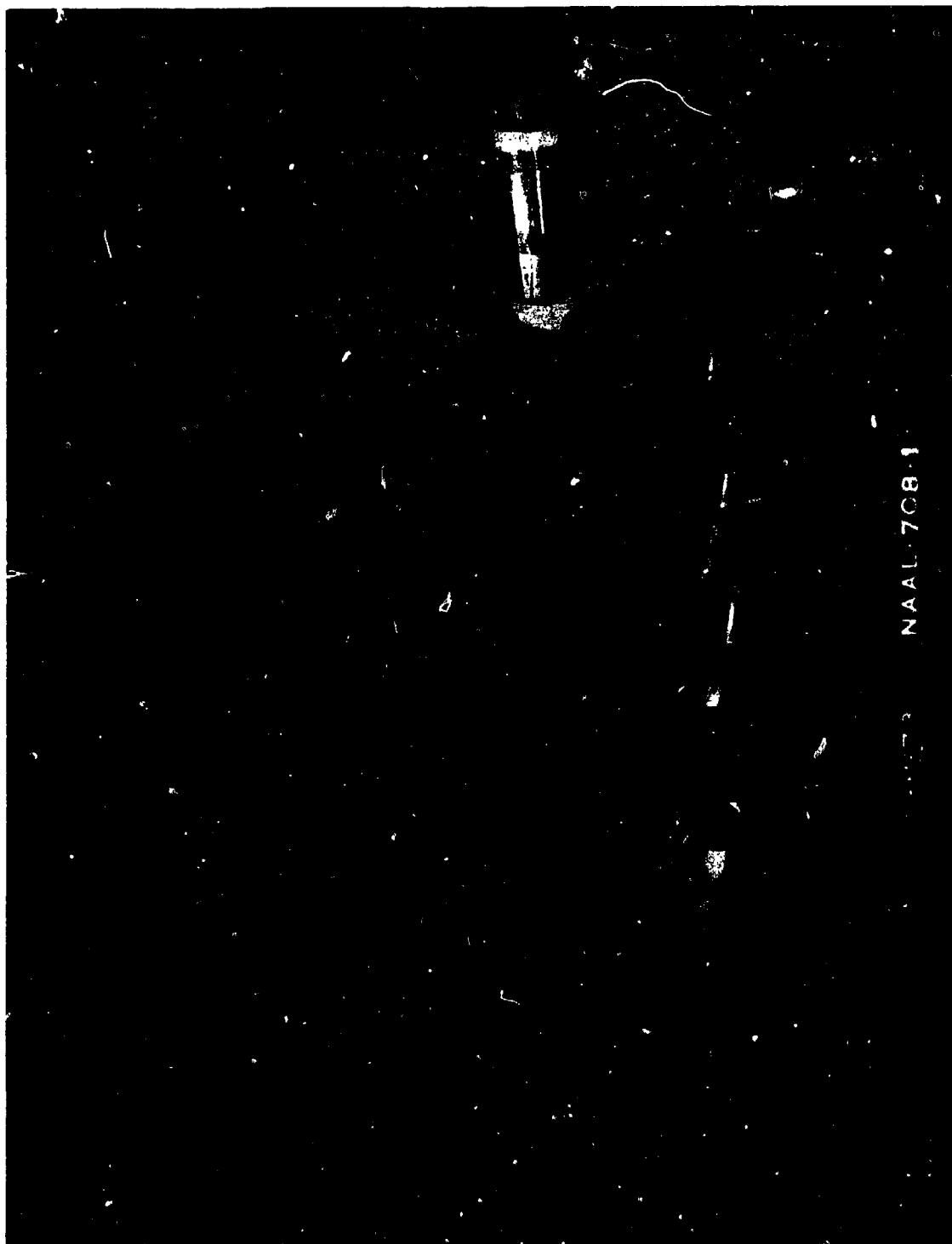
a. Front view NAAL installation ABFS off B16C5D7F1W87E18V3R3

Figure 3. - Model Photographs.



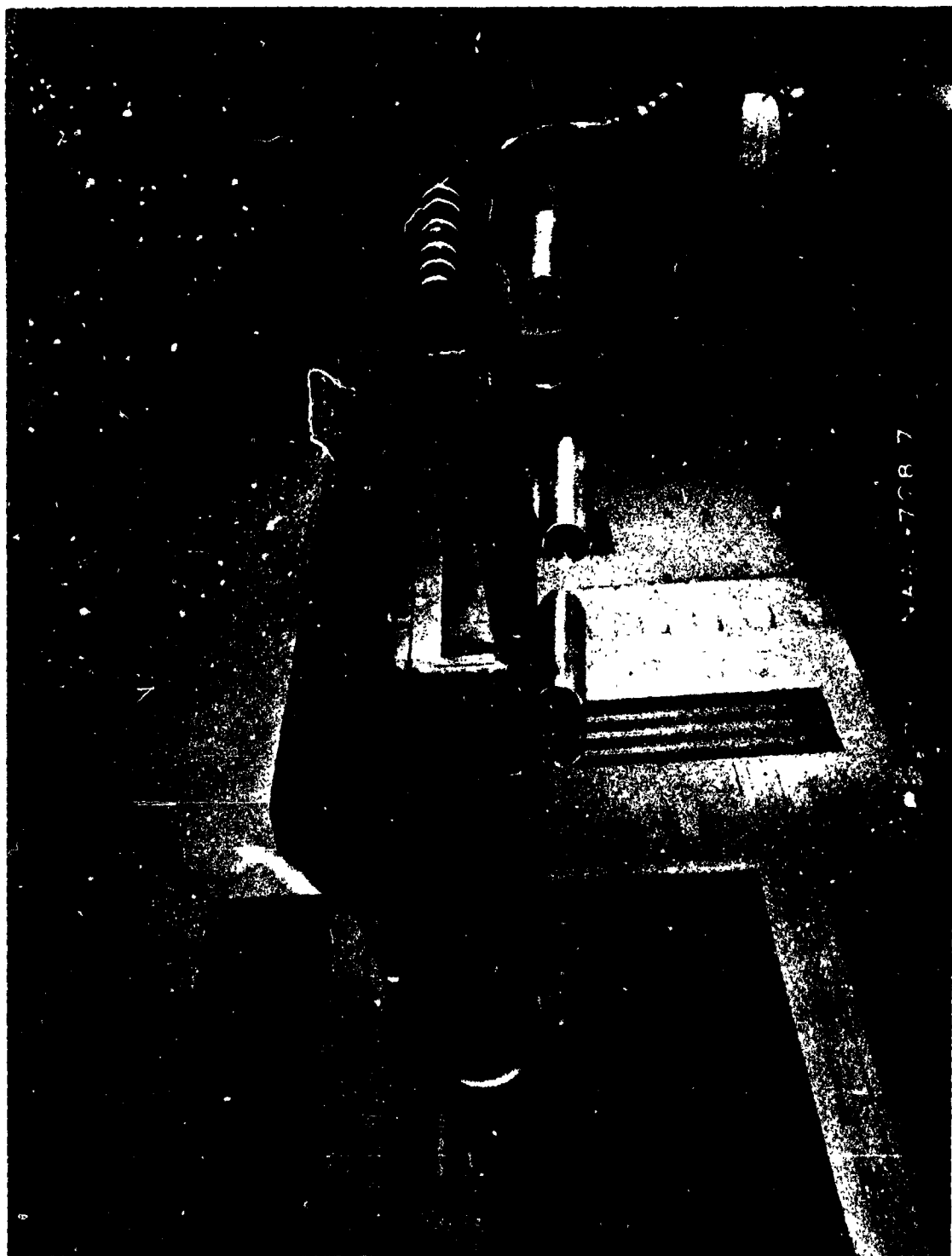
b. Front view NAAL installation single nacelles B₁₆C₅D₇F₁J₁₇W₈₇E₁₈V₃R₃

Figure 3. - Continued.



c. Rear view NAAL installation single nacelles B₁₆C₅D₇F₁J₁₇W₈₇E₁₈V₃R₃

Figure 3. - Continued



d. Front view NAAL installation podded nacelles B16C5D7F1J14W87E18V3R3

Figure 3. - Continued.



e. Rear view NAAL installation podded nacelles B₁₆C₅D₇F₁J₁₄W₈₇E₁₈V₃R₃

Figure 3. - Concluded

DATA FIGURES

DATA SET SYMBOL CONFIGURATION DESCRIPTION

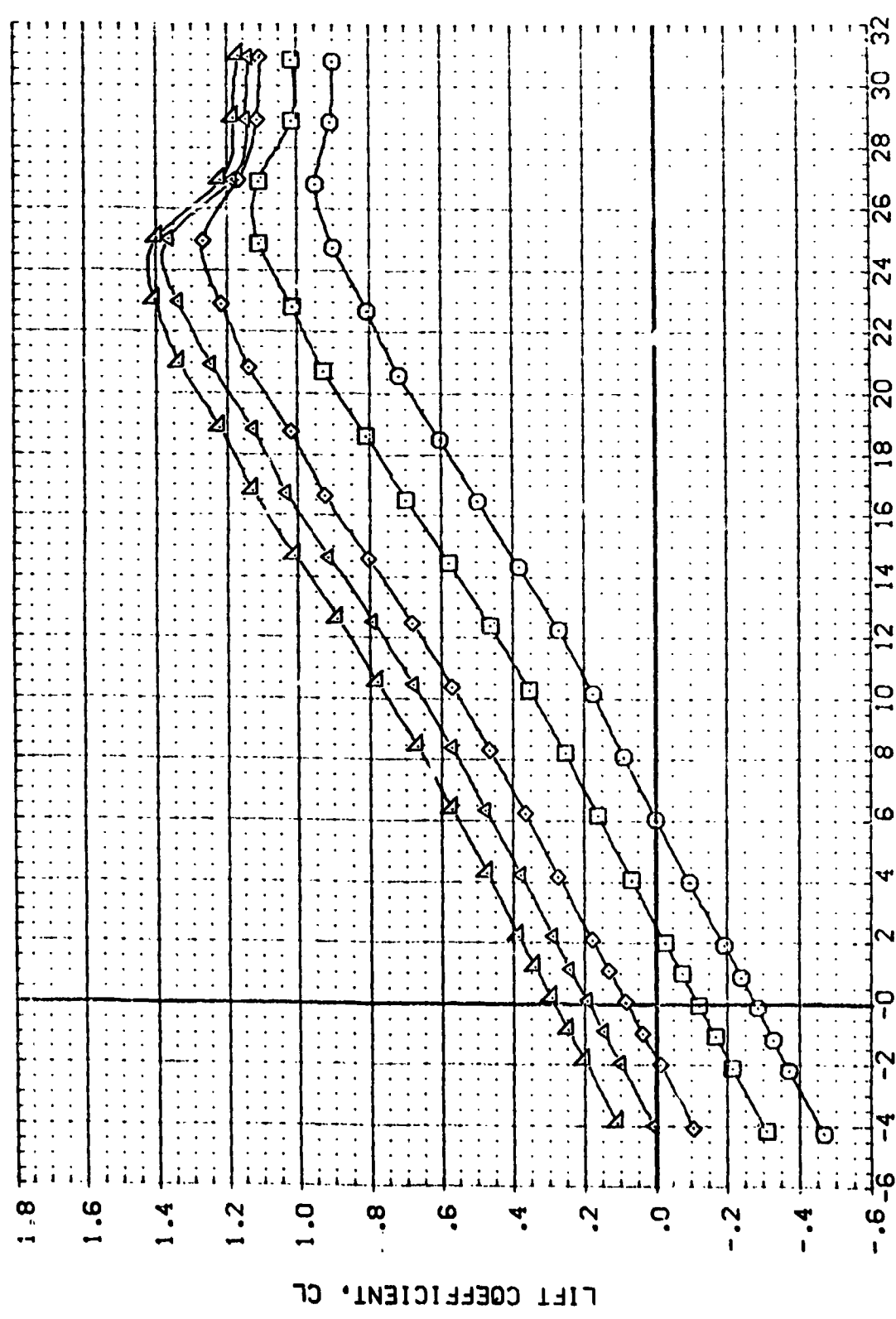
(ADSC09)	CA71A	B16C5	D7	F1	V87E18V3R3X9
(ADSC09)	CA71A	B16C5	D7	F1	V87E18V3R3X9
(ADSC01)	CA71A	B16C5	D7	F1	V87E18V3R3X9
(ADSC04)	CA71A	B16C5	D7	F1	V87E18V3R3X9
(ADSC09)	CA71A	B16C5	D7	F1	V87E18V3R3X9

BETA ELEVON ALLRON

.000	-20.000	.000
.000	-10.000	.000
.000	-5.000	.000
.000	5.000	.000
.000	10.000	.000

REFERENCE INFORMATION

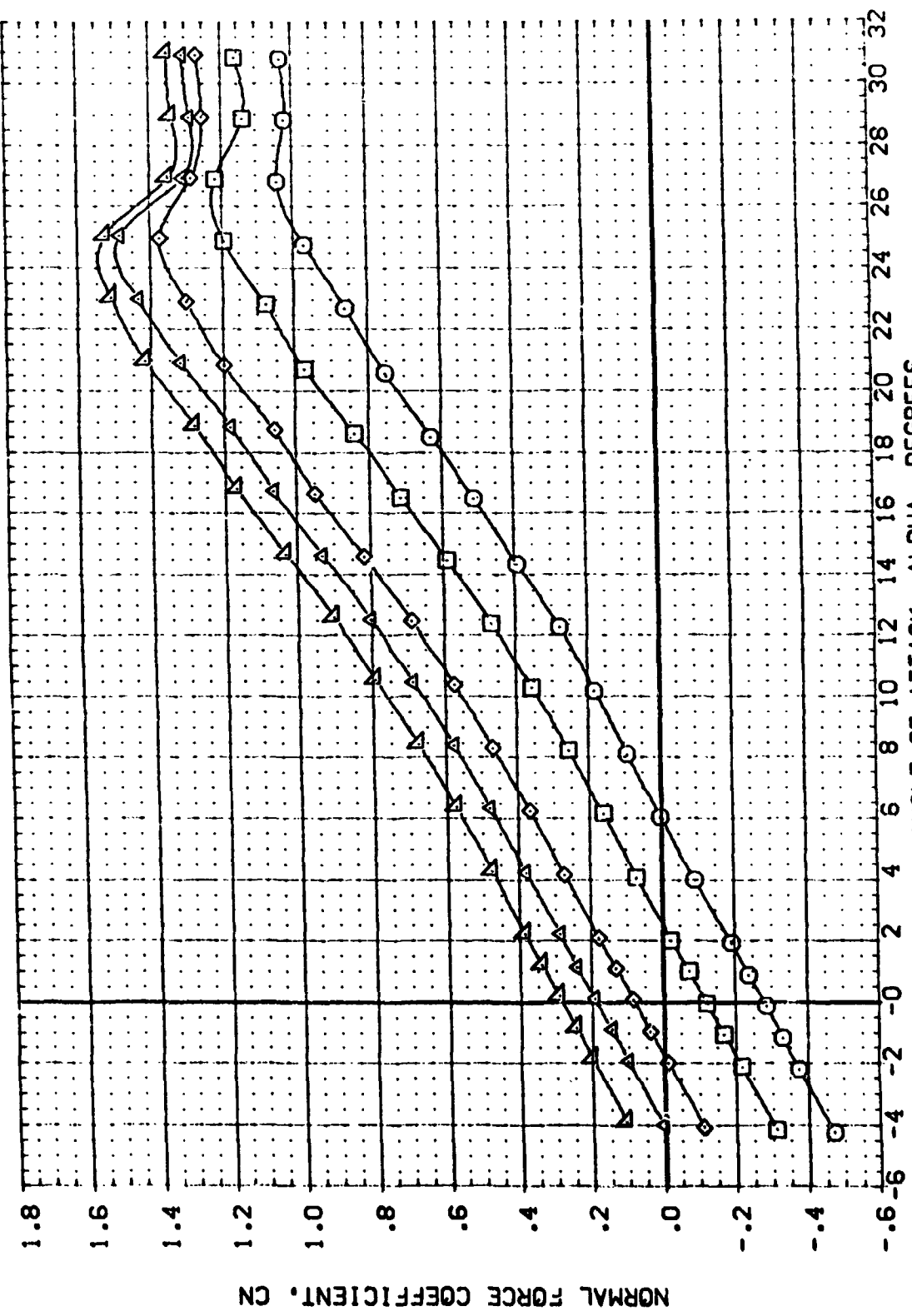
SREF	4.4122	SO.FT.
LREF	19.2299	INCHES
BREF	37.9349	INCHES
VWRP	43.5974	INCHES
ZWRP	16.2000	INCHES
SCALE	.5405	SCALE



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - A3PS OFF

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	REFERENCE INFORMATION
[ADSC08]	CA71A B16C5 D7 F1 V87E18V33X9	.000	-20.000	.000	SREF 4.4122 SC.FT.
[ADSC06]	CA71A B16C5 D7 F1 V87E18V33X9	.000	-10.000	.000	LREF 19.2289 VCHES
[ADSC01]	CA71A B16C5 D7 F1 V87E18V33X9	.000	.000	.000	BREF 37.9349 VCHES
[ADSC04]	CA71A B16C5 D7 F1 V87E18V33X9	.000	5.000	.000	XREF 43.5314 VCHES
[ADSC08]	CA71A B16C5 D7 F1 V87E18V33X9	.000	10.000	.000	YREF 16.2003 VCHES
					ZREF .0000 INCHES
					SCALE .0000



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

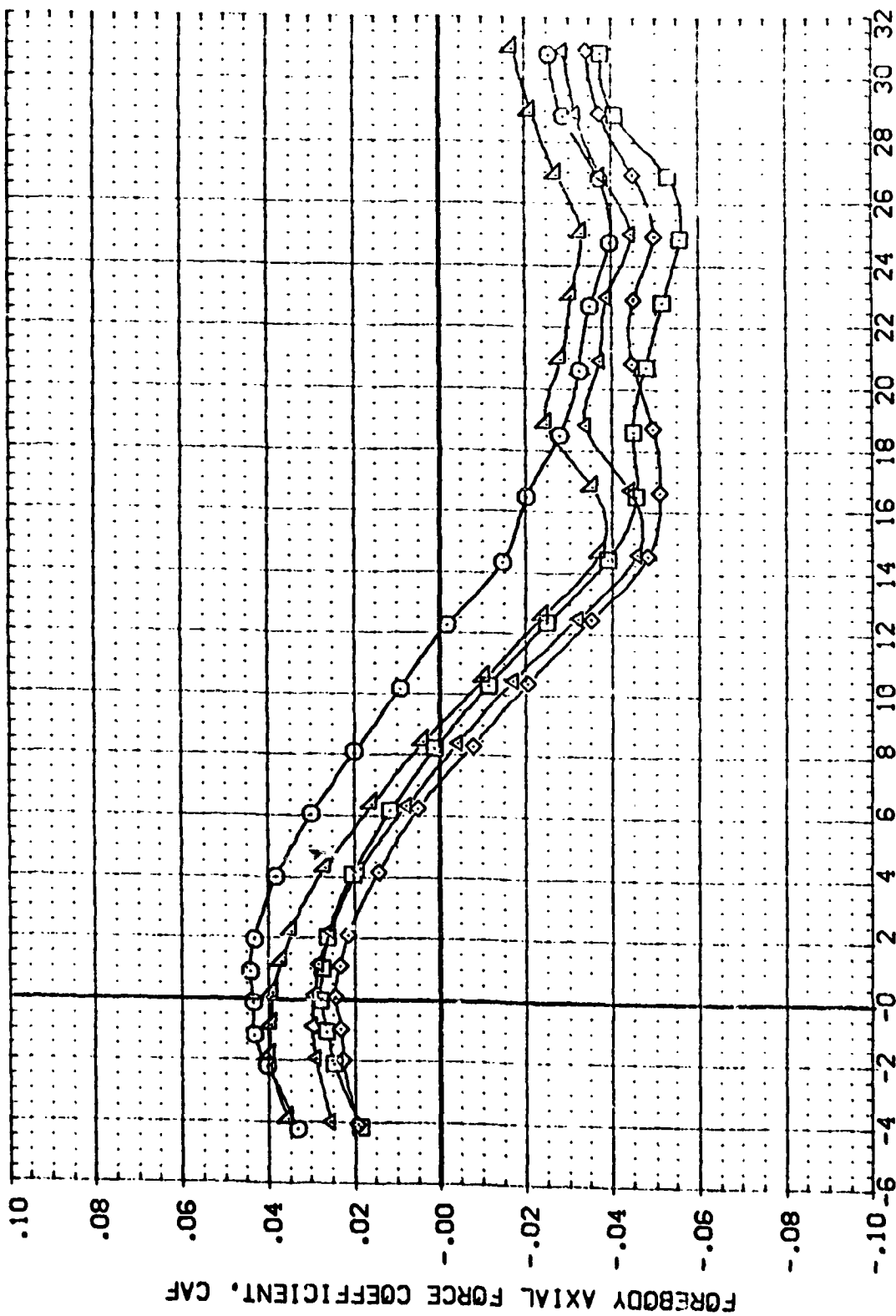
(AUS009)	DA71A	916C5	D7	F1	V87E18V3R3X9
(AUS006)	DA71A	916C5	D7	F1	V87E18V3R3X9
(AUS001)	DA71A	916C5	D7	F1	V87E18V3R3X9
(AUS004)	DA71A	916C5	D7	F1	V87E18V3R3X9
(AUS008)	DA71A	916C5	D7	F1	V87E18V3R3X9

BETA ELEVON AIRLON

.000	-20.000	.000
.000	-10.000	.000
.000	5.000	.000
.000	10.000	.000

REFERENCE INFORMATION

SREF	4.4122	SO.FT.
LREF	19.2259	INCHES
BREF	37.9349	INCHES
XMRP	43.5974	INCHES
YMRP	16.2000	INCHES
ZMRP	16.2000	INCHES
SCALE	.04CS	SCALE



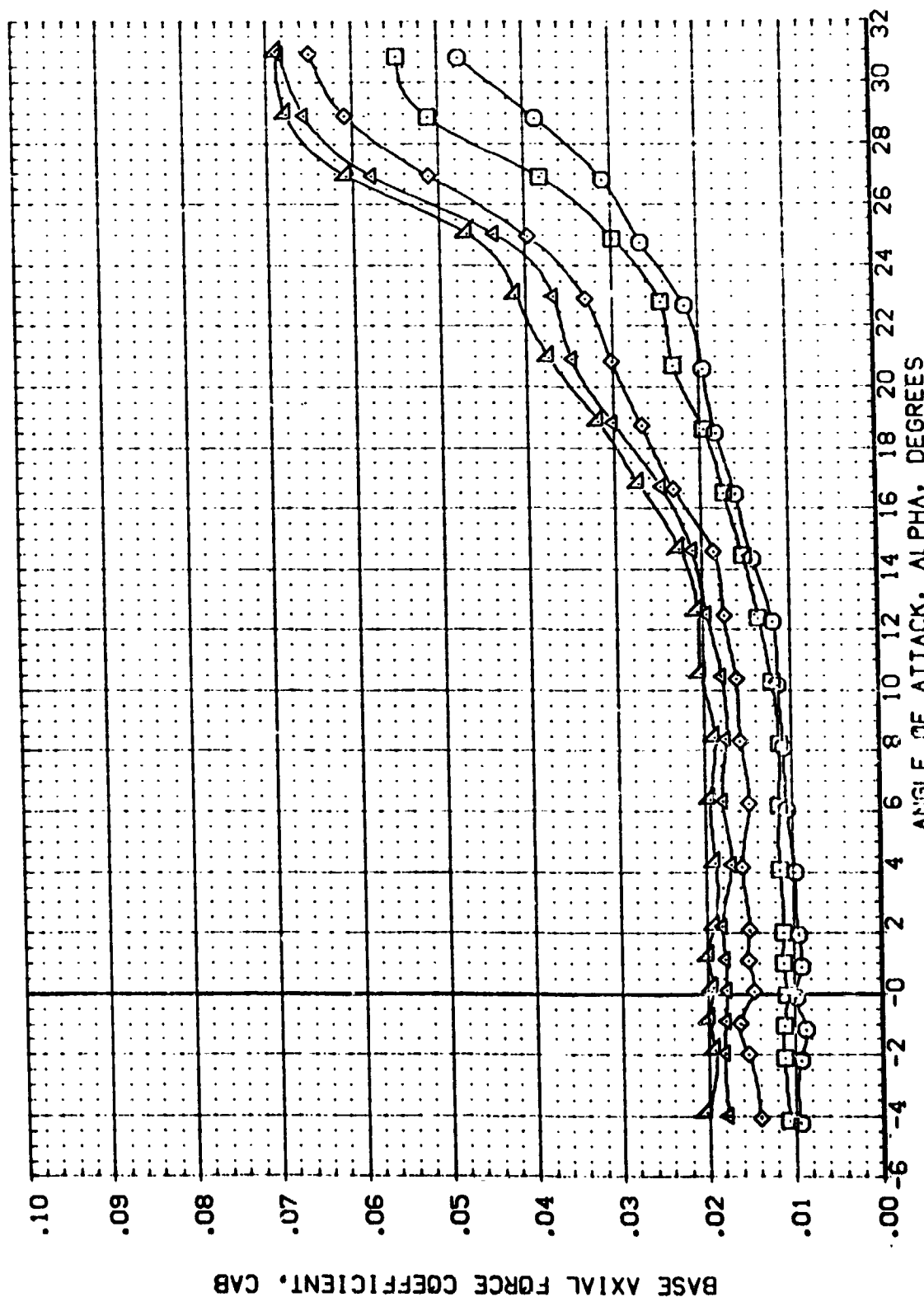
ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

REFERENCE INFORMATION
 SREF 4.4122 SC.FI.
 LREF 19.2289 NC.FI.
 BREF 37.9349 NC.FI.
 YMRP 43.5974 NC.FI.
 ZMRP 16.2000 NC.FI.
 SCALE .0400

BETA ELEVON AIRLON
 .000 -20.000 .000
 .000 -10.000 .000
 .000 5.000 .000
 .000 10.000 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 0A71A B16CS D7 F1 V87E18V3K3X9
 0A71A B16CS D7 F1 V87E18V3K3X9
 0A71A B16CS D7 F1 V87E18V3K3X9
 0A71A B16CS D7 F1 V87E18V3K3X9
 0A71A B16CS D7 F1 V87E18V3K3X9
 0A71A B16CS D7 F1 V87E18V3K3X9



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

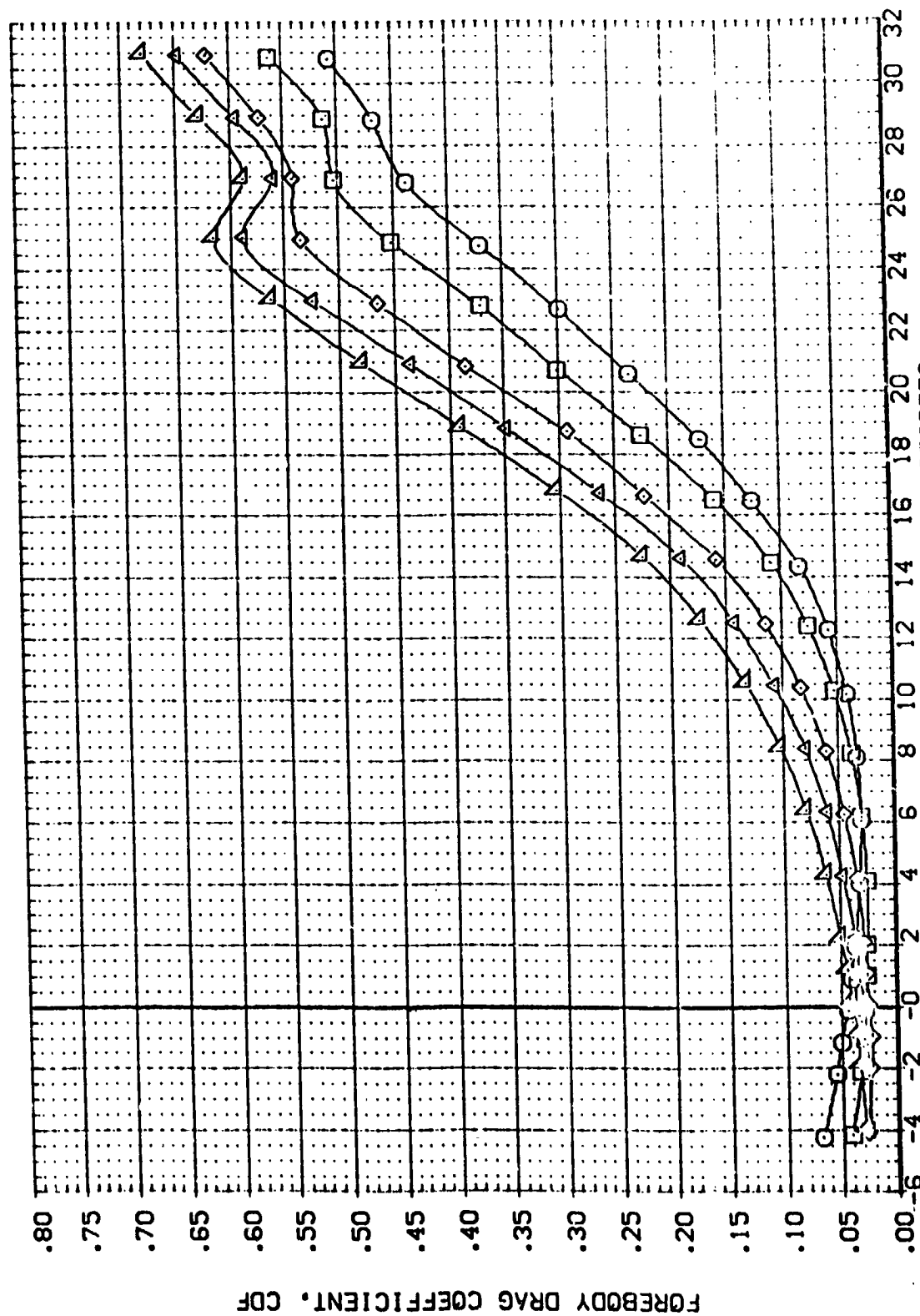
AS008	CA71A	B1ECS	D7	F1	V87E18V3R3X9
AS009	CA71A	B1ECS	D7	F1	V87E18V3R3X9
AS010	CA71A	B1ECS	D7	F1	V87E18V3R3X9
AS011	CA71A	B1ECS	D7	F1	V87E18V3R3X9
AS012	CA71A	B1ECS	D7	F1	V87E18V3R3X9

BETA ELEVON AIRLON

.000	-20.000	.000
.000	-10.000	.000
.000	.000	.000
.000	5.000	.000
.000	10.000	.000

REFERENCE INFORMATION

SREF	4.4122	50 FT
LREF	19.2259	INCHES
BREF	37.9349	INCHES
XREF	43.5974	INCHES
YREF	.0000	INCHES
ZREF	16.2000	INCHES
SCALE	.0405	SCALE



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

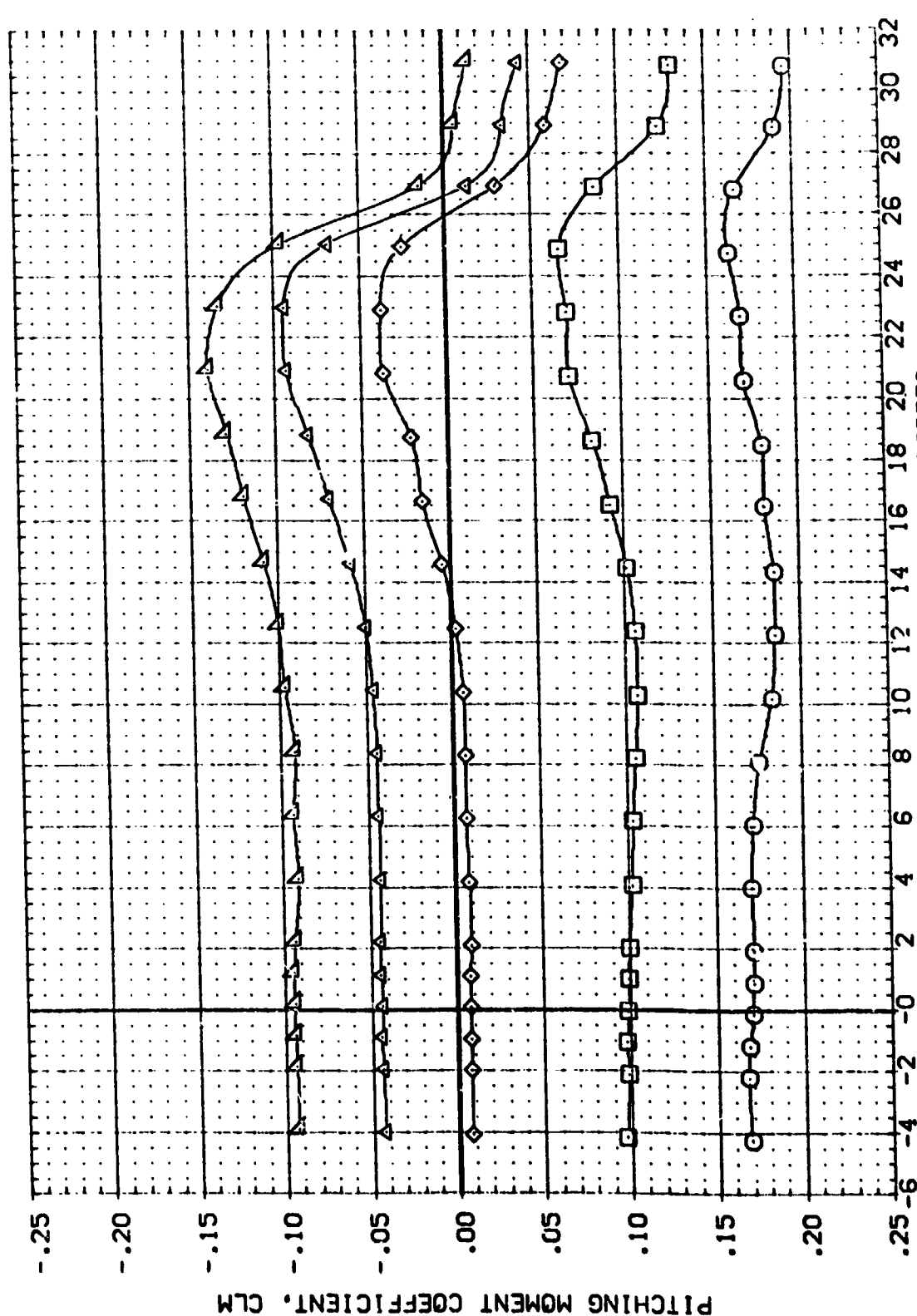
(ADSC09)	CA71A	B16C5	D7	F1	V87E18V3K3X9
(ADSC06)	CA71A	B16C3	D7	F1	V87E18V3K3X9
(ADSC01)	CA71A	B16C5	D7	F1	V87E18V3K3X9
(ADSC04)	CA71A	B16C5	D7	F1	V87E18V3K3X9
(ADSC08)	CA71A	B16C5	D7	F1	V87E18V3K3X9

BETA ELEVON AIRRON

.000	-20.000	.000
.000	-10.000	.000
.000	.000	.000
.000	5.000	.000
.000	10.000	.000

REFERENCE INFORMATION

SREF	4.4122	SO. FT.
LREF	19.2288	NO. INCHES
BREF	37.9318	NO. INCHES
XMRP	43.5874	NO. INCHES
YMRP	16.2033	NO. INCHES
ZMRP	16.2033	NO. INCHES
SCALE	.0435	SCALE

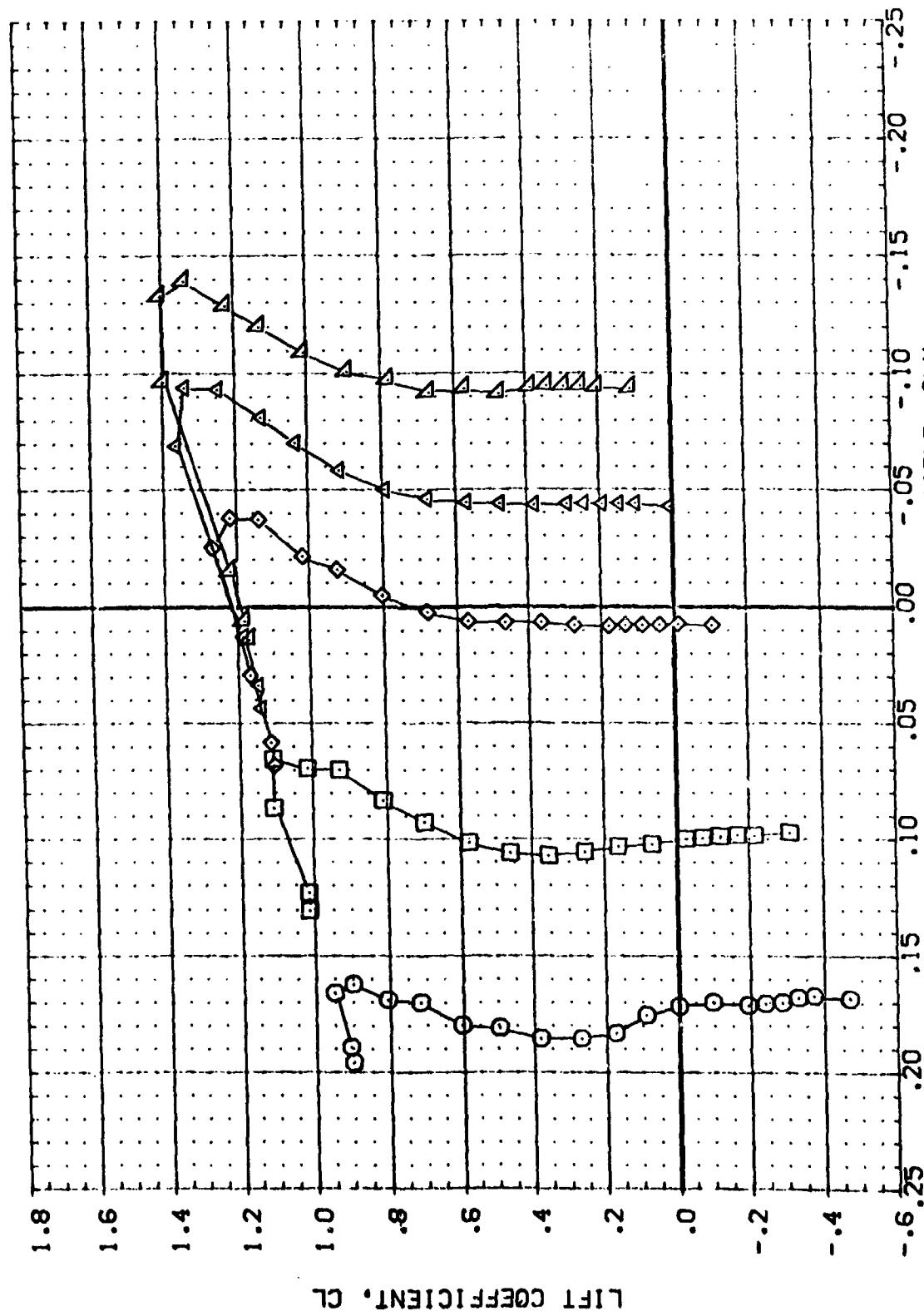


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - ABPS OFF
(A)MACH = 0.20

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.5349 INCHES
 XMRP 43.5974 INCHES
 YMRP 0.000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

BETA ELEVON AILRON
 .000 -20.000 .000
 .000 -10.000 .000
 .000 .000 .000
 .000 5.000 .000
 .000 10.000 .000

DATA SET SYMOL CONFIGURATION DESCRIPTION
 (ADSC09) CA71A B16CS D7 F1 V87E18V3R3X9
 (ADSC10) CA71A B16CS D7 F1 V87E18V3R3X9
 (ADSC11) CA71A B16CS D7 F1 V87E18V3R3X9
 (ADSC12) CA71A B16CS D7 F1 V87E18V3R3X9
 (ADSC13) CA71A B16CS D7 F1 V87E18V3R3X9
 (ADSC14) CA71A B16CS D7 F1 V87E18V3R3X9
 (ADSC15) CA71A B16CS D7 F1 V87E18V3R3X9



PITCHING MOMENT COEFFICIENT, CLM

ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

REFERENCE INFORMATION

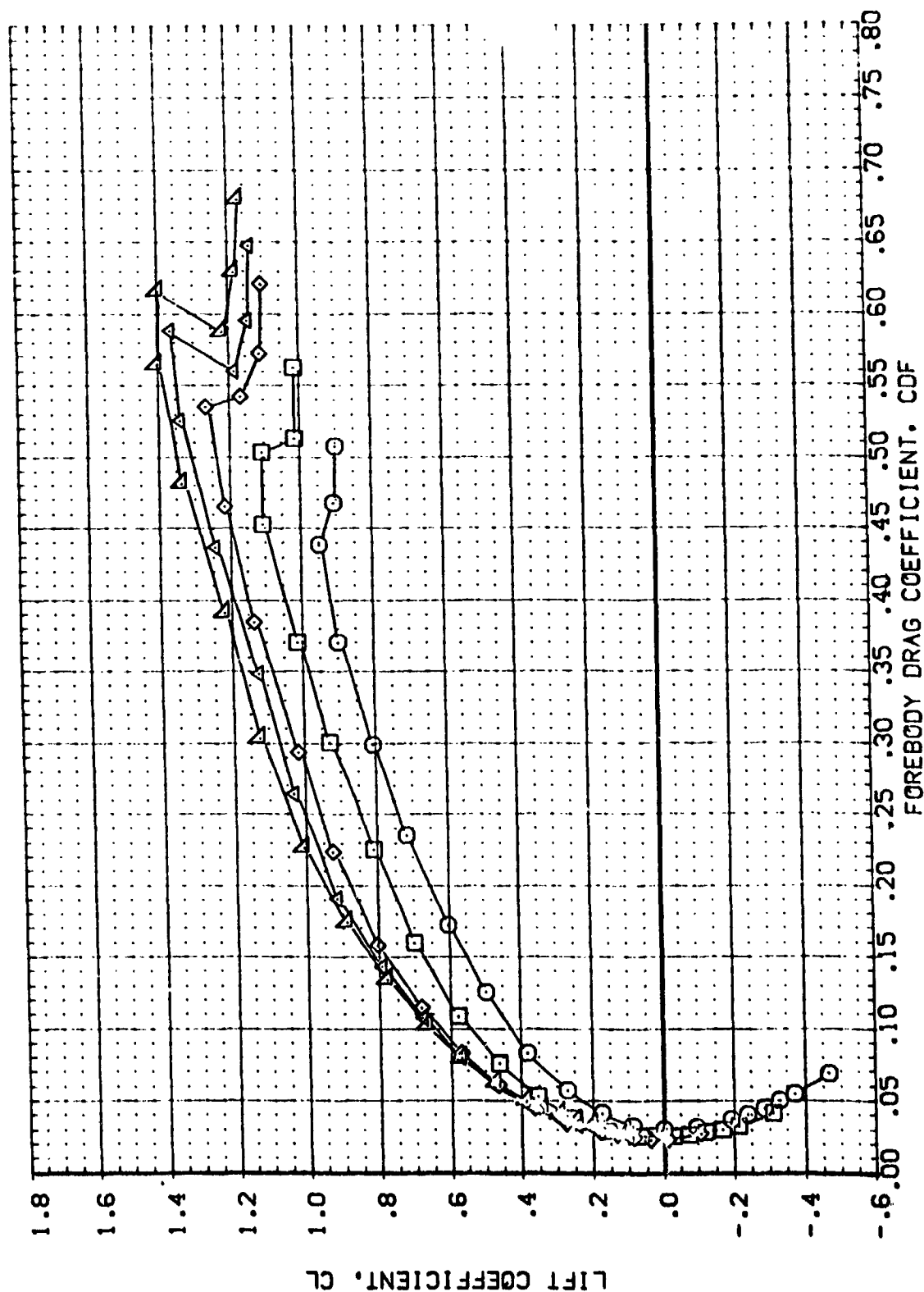
SREF	4.4122	SO.FT.	INCHES
LREF	19.2299	INCHES	INCHES
BREF	37.9349	INCHES	INCHES
XMRP	43.5974	INCHES	INCHES
YMRP	.0000	INCHES	INCHES
ZMRP	16.2000	INCHES	INCHES
SCALE	.0405	SCALE	

BETA ELEVON AILRON

BETA	.000	ELEVON	.000
	.000	-10.000	.000
	.000	-5.000	.000
	.000	5.000	.000
	.000	10.000	.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AD5009)	0A71A	B16CS	D7	F1	V87E18V3R3X9
(AD5006)	0A71A	B16CS	D7	F1	V87E18V3R3X9
(AD5001)	0A71A	B16CS	D7	F1	V87E18V3R3X9
(AD5004)	0A71A	B16CS	D7	F1	V87E18V3R3X9
(AD5008)	0A71A	B16CS	D7	F1	V87E18V3R3X9



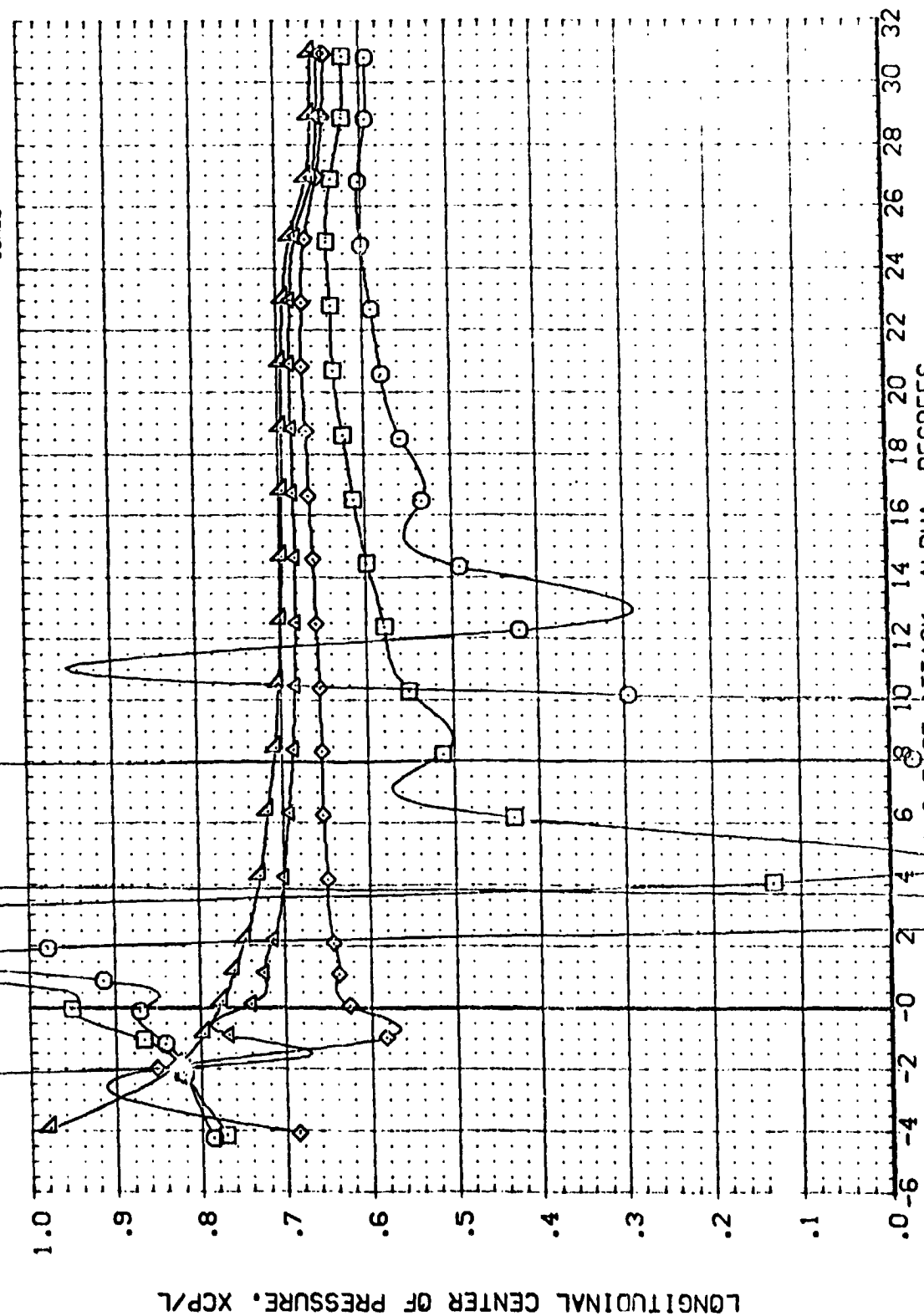
ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP 16.2000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

BETA ELEVON AIRLON
 .000 -20.000
 .000 -10.000
 .000 0.000
 .000 5.000
 .000 10.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADSC09) CA71A B16C5 F1 V8VE18V3R3X9
 (ADSC03) CA71A B16C5 D7 V8VE18V3R3X9
 (ADSC01) CA71A B16C5 D7 V8VE18V3R3X9
 (ADSC04) CA71A B16C5 D7 V8VE18V3R3X9
 (ADSC08) CA71A B16C5 D7 V8VE18V3R3X9

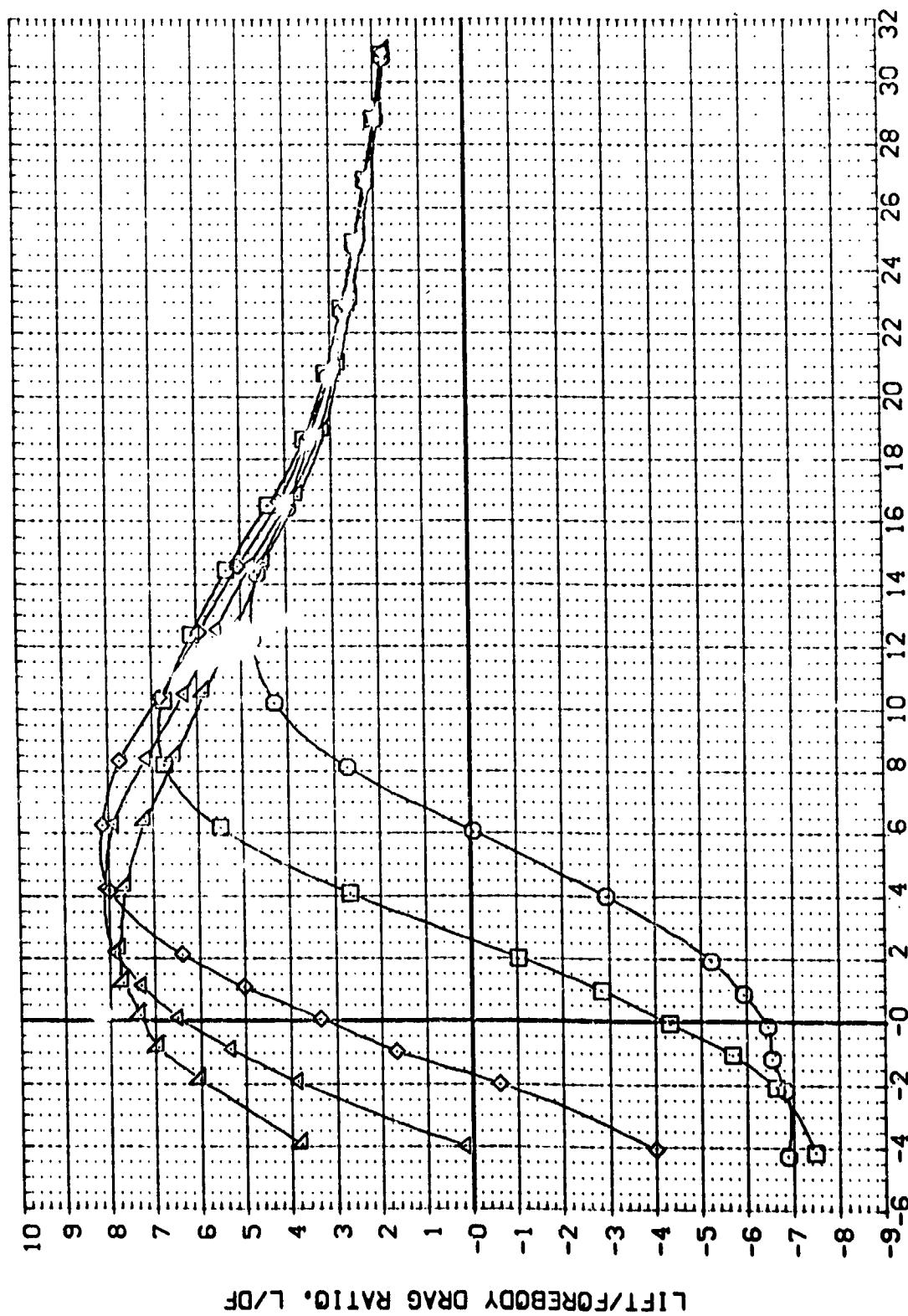


ELEVON EFFECTIVENESS
 (A)MACH = 0.20
 -89B FERRY CONFIGURATION - ABPS OFF

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A55009) CA71A B16CS D7 F1 V87E18V3R3X9
 (A55006) CA71A B16CS D7 F1 V87E18V3R3X9
 (A55001) CA71A B16CS D7 F1 V87E18V3R3X9
 (A55004) CA71A B16CS D7 F1 V87E18V3R3X9
 (A55008) CA71A B16CS D7 F1 V87E18V3R3X9

BETA ELEVON AILRON
 .000 -20.000 .000
 .000 -10.000 .000
 .000 5.000 .000
 .000 10.000 .000

REFERENCE INFORMATION
 SREF 4.4122 SG.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2030 INCHES
 SCALE .0405



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

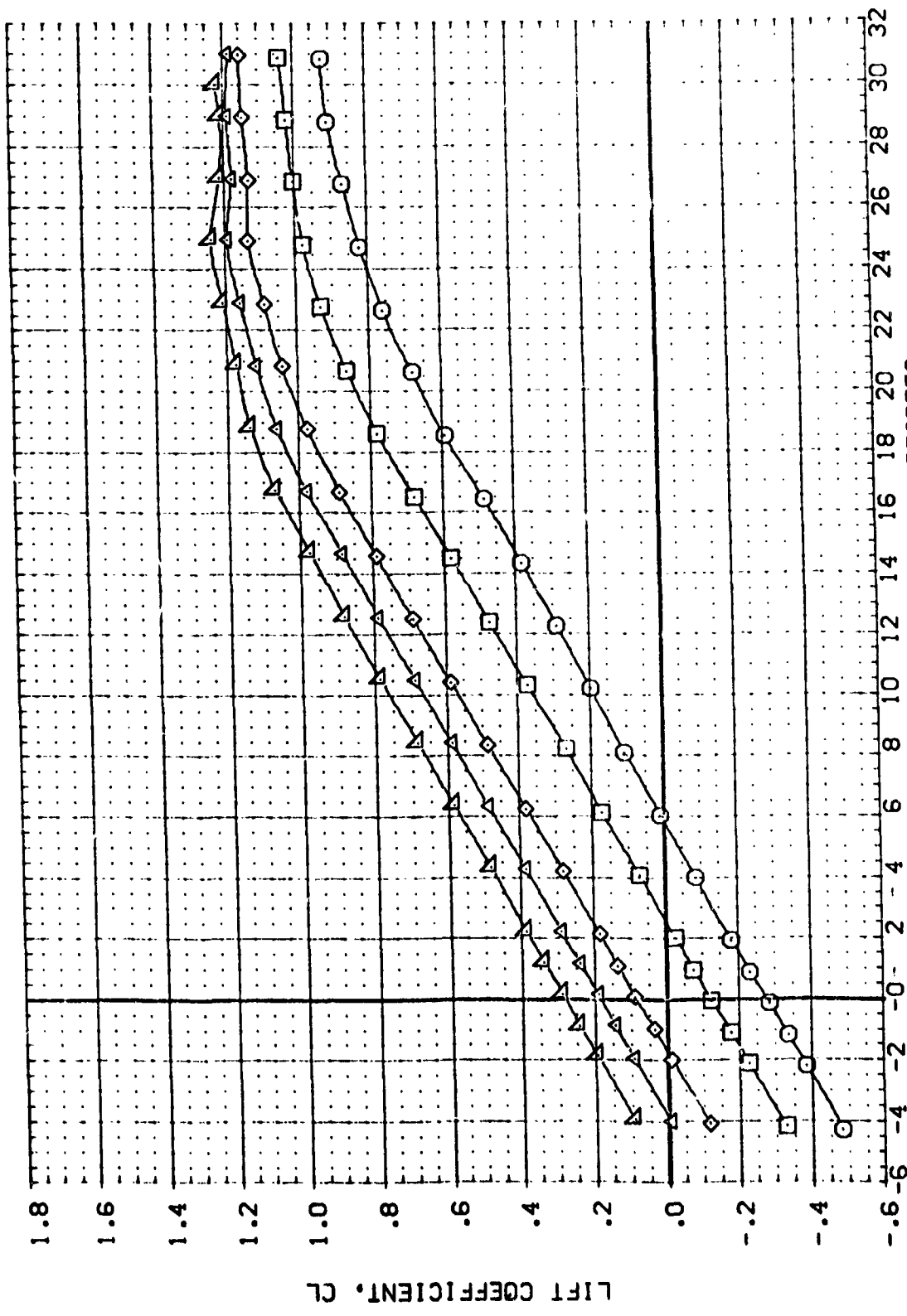
DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
(ADSO12)	0A71A B16C5 D7	FI114V87 E18V3R3X10
(ADSO15)	0A71A B16C5 D7	FI114V87 E18V3R3X10
(ADSO22)	0A71A B16C5 D7	FI114V87 E18V3R3X10
(ADSO17)	0A71A B16C5 D7	FI114V87 E18V3R3X10
(ADSO13)	0A71A B16C5 D7	FI114V87 E18V3R3X10

REFERENCE INFORMATION

REFERENCE	INCHES	SCALE
SREF	4.4122	SCALE
LREF	19.2299	INCHES
BREF	37.9349	INCHES
XMRP	43.5974	INCHES
YMRP	16.2000	INCHES
ZMRP	16.2000	INCHES

BETA ELEVON AILRON NACX/L

BETA	ELEVON	AILRON	NACX/L
.000	-20.000	.000	.000
.000	-10.000	.000	.000
.000	5.000	.000	.000
.000	10.000	.000	.000



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS

(M)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

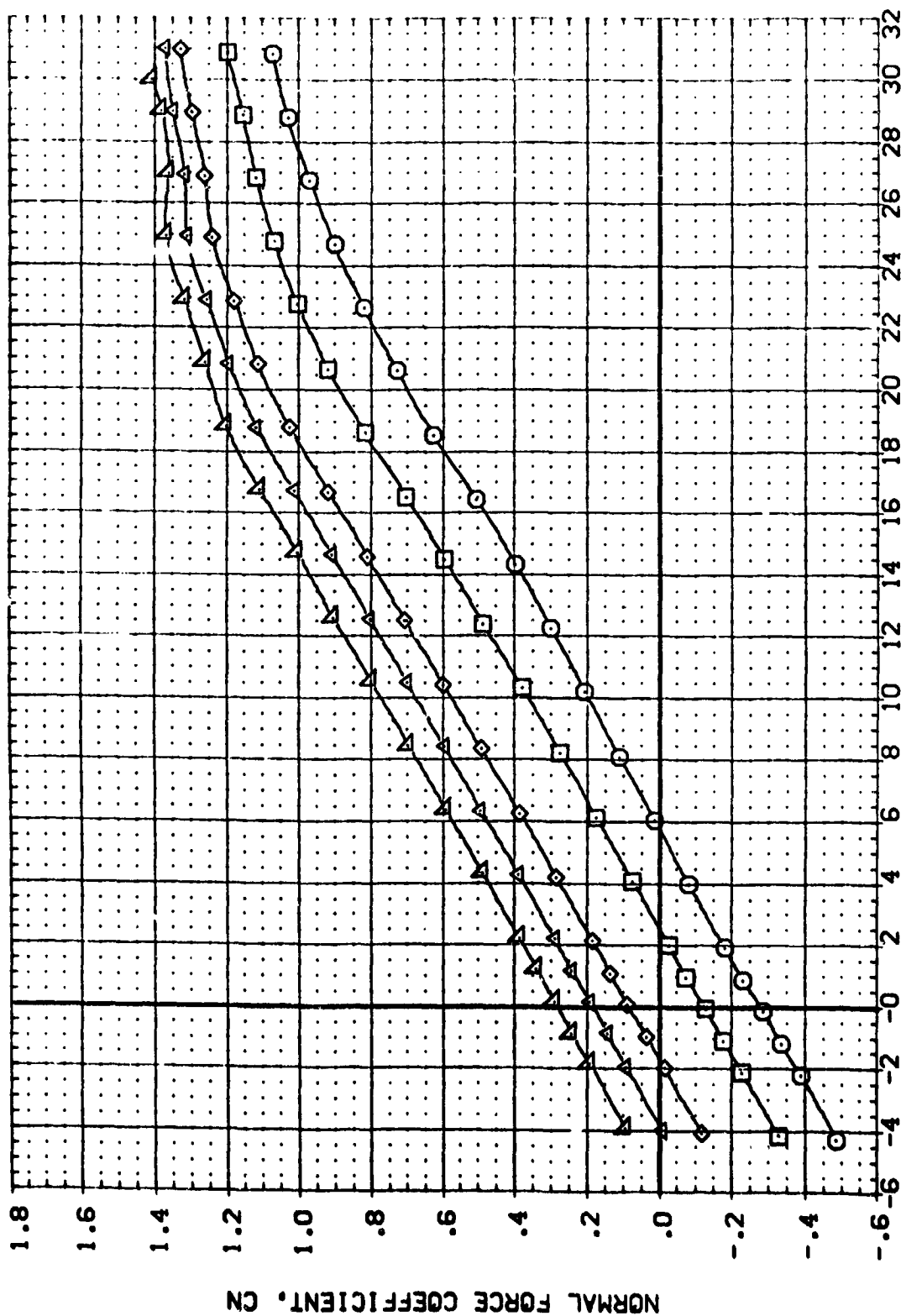
(A05012)	DA71A	B16CS	D7	F1J14V87	E18V3R3K10
(A05015)	DA71A	B16CS	D7	F1J14V87	E18V3R3K10
(A05022)	DA71A	B16CS	D7	F1J14V87	E18V3R3K10
(A05017)	DA71A	B16CS	D7	F1J14V87	E18V3R3K10
(A05013)	DA71A	B16CS	D7	F1J14V87	E18V3R3K10

BETA

ELEVON	A1LRON	NACVA
.000	.000	.000
.000	.000	.000
.000	.000	.000
.000	.000	.000
.000	.000	.000
.000	.000	.000

REFERENCE INFORMATION

SREF	4.4122	SO.FT.
LREF	19.2299	NCES
BREF	37.9319	NCES
XMRP	43.5974	NCES
YMRP	.0000	NCES
ZMRP	16.2000	NCES
SCALE	.0405	SCALE

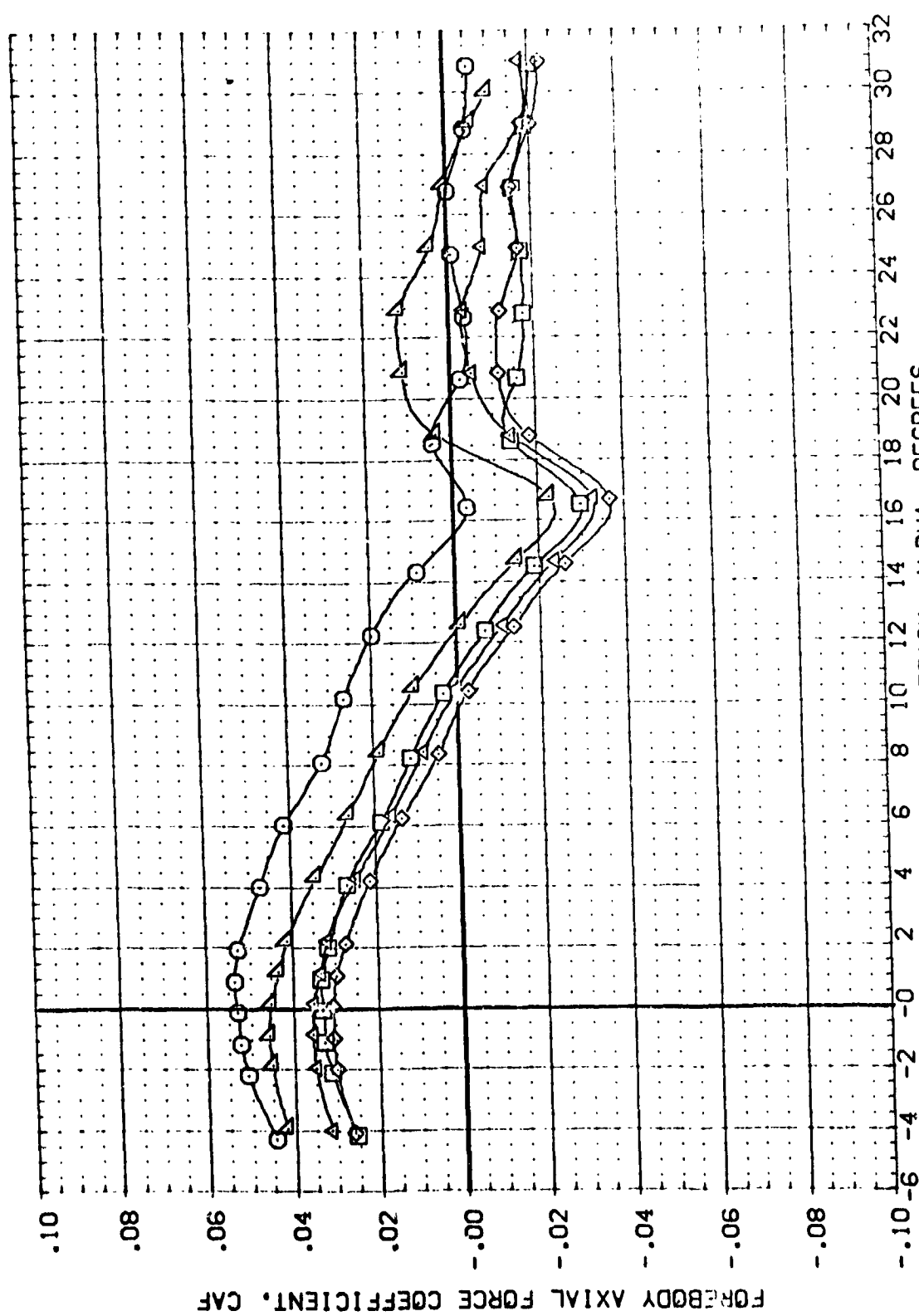


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACA/L	REFERENCE INFORMATION	SCALE
(A0012)	CA71A B16CS D7 F1J14V87 E18V3R3X10	.000	-20.000	.000	.000	SREF 4.4122	SCALE
(A0015)	CA71A B16CS D7 F1J14V87 E18V3R3X10	.000	-10.000	.000	.000	LREF 19.2299	INCLUS
(A0022)	CA71A B16CS D7 F1J14V87 E18V3R3X10	.000	.000	.000	.000	BREF 37.9349	INCLUS
(A0017)	CA71A B16CS D7 F1J14V87 E18V3R3X10	.000	5.000	.000	.000	XREF 43.5974	INCLUS
(A0013)	CA71A B16CS D7 F1J14V87 E18V3R3X10	.000	10.000	.000	.000	ZREF 16.2000	INCLUS



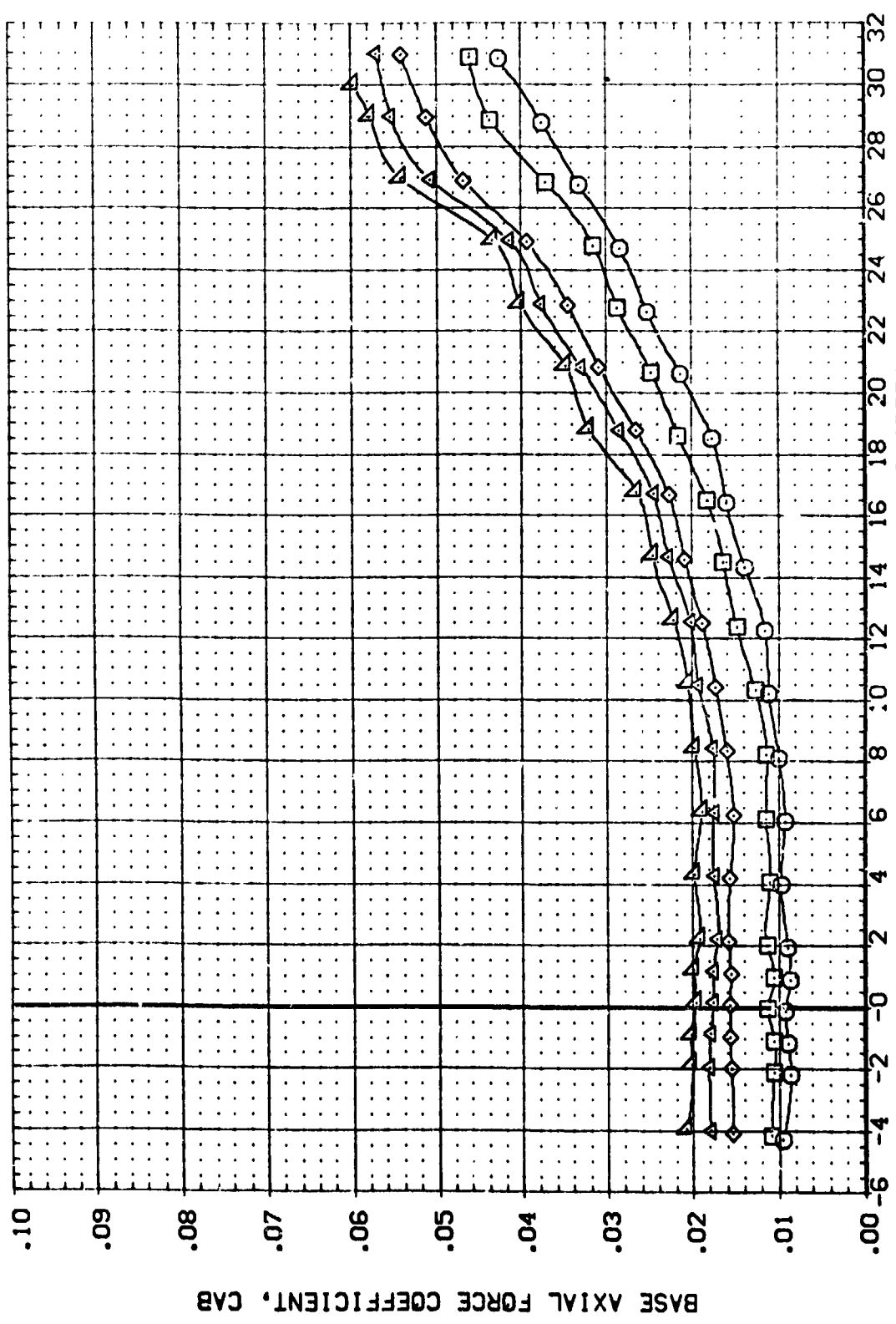
ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A05012) □ FJ14V87 E18V3R3X10
 (A05015) ◇ FJ14V87 E18V3R3X10
 (A05022) △ FJ14V87 E18V3R3X10
 (A05017) □ FJ14V87 E18V3R3X10
 (A05013) ◇ FJ14V87 E18V3R3X10

BETA ELEVON ALLRON NACX/L
 .000 -20.000 .000
 .000 -10.000 .000
 .000 5.000 .000
 .000 10.000 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

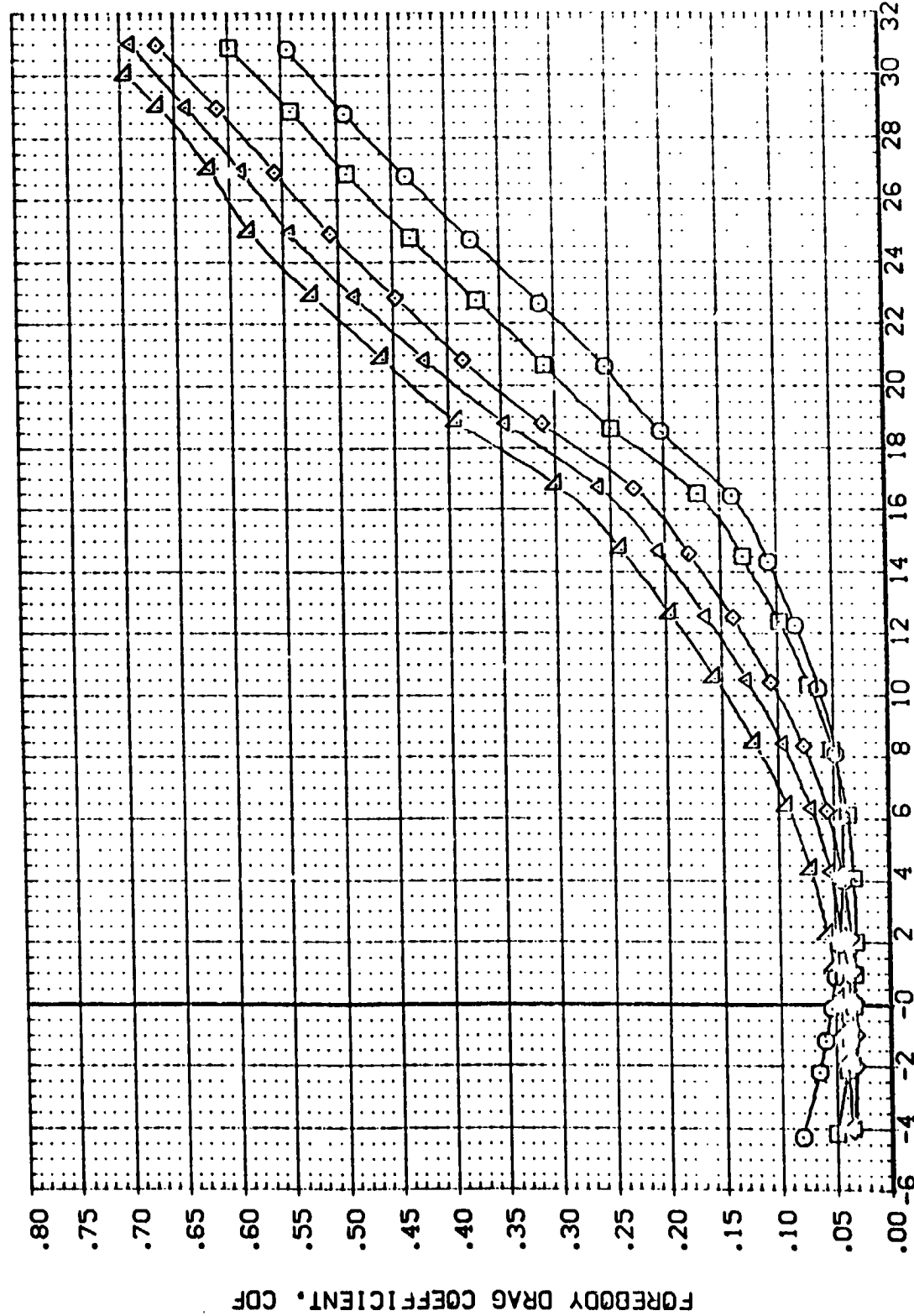


ANGLE OF ATTACK, ALPHA, DEGREES

ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACA/L	REFERENCE INFORMATION	SO.FT.
[A5012]	0A71A B16CS D7 F1J14V87 E18V353X10	.000	-20.000	.000	.000	SREF	4.4122
[A5015]	0A71A B16CS D7 F1J14V87 E18V353X10	.000	-15.000	.000	.000	LREF	19.2259
[A5022]	0A71A B16CS D7 F1J14V87 E18V353X10	.000	5.000	.000	.000	XREF	37.9349
[A5027]	0A71A B16CS D7 F1J14V87 E18V353X10	.000	10.000	.000	.000	YREF	43.5974
[A5031]	0A71A B16CS D7 F1J14V87 E18V353X10	.000		.000	.000	ZREF	16.2000
[A5033]	0A71A B16CS D7 F1J14V87 E18V353X10	.000		.000	.000	SCALE	.0405

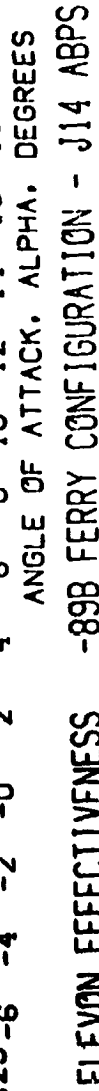


ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

CA71A	B16C5	D7	F1J14V87	E18V3R3X10
CA71A	B16C5	D7	F1J14V87	E18V3R3X10
CA71A	B16C5	D7	F1J14V87	E18V3R3X10
CA71A	B16C5	D7	F1J14V87	E18V3R3X10
CA71A	B16C5	D7	F1J14V87	E18V3R3X10

16. 2000 43. 5974 37. 5349 19. 2299



ELEVON EFFECTIVENESS

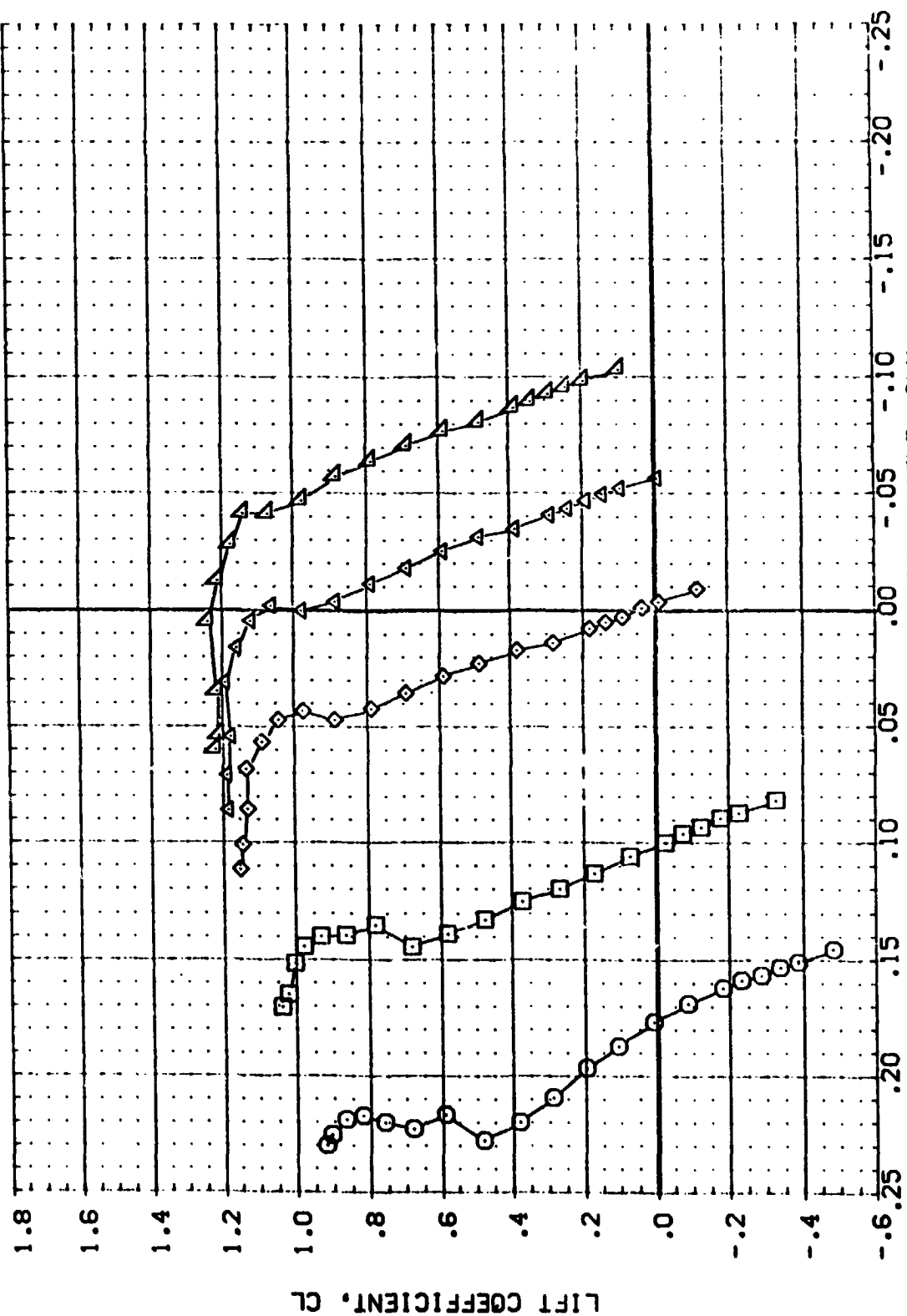
$$\{A\}_{MACH} = 0.20$$

PAGE 110

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A)DS012 CA71A B16CS D7 F1J14V87 E18V3K3X10
 (A)DS015 CA71A B16CS D7 F1J14V87 E18V3K3X10
 (A)DS022 CA71A B16CS D7 F1J14V87 E18V3K3X10
 (A)DS017 CA71A B16CS D7 F1J14V87 E18V3K3X10
 (A)DS013 CA71A B16CS D7 F1J14V87 E18V3K3X10

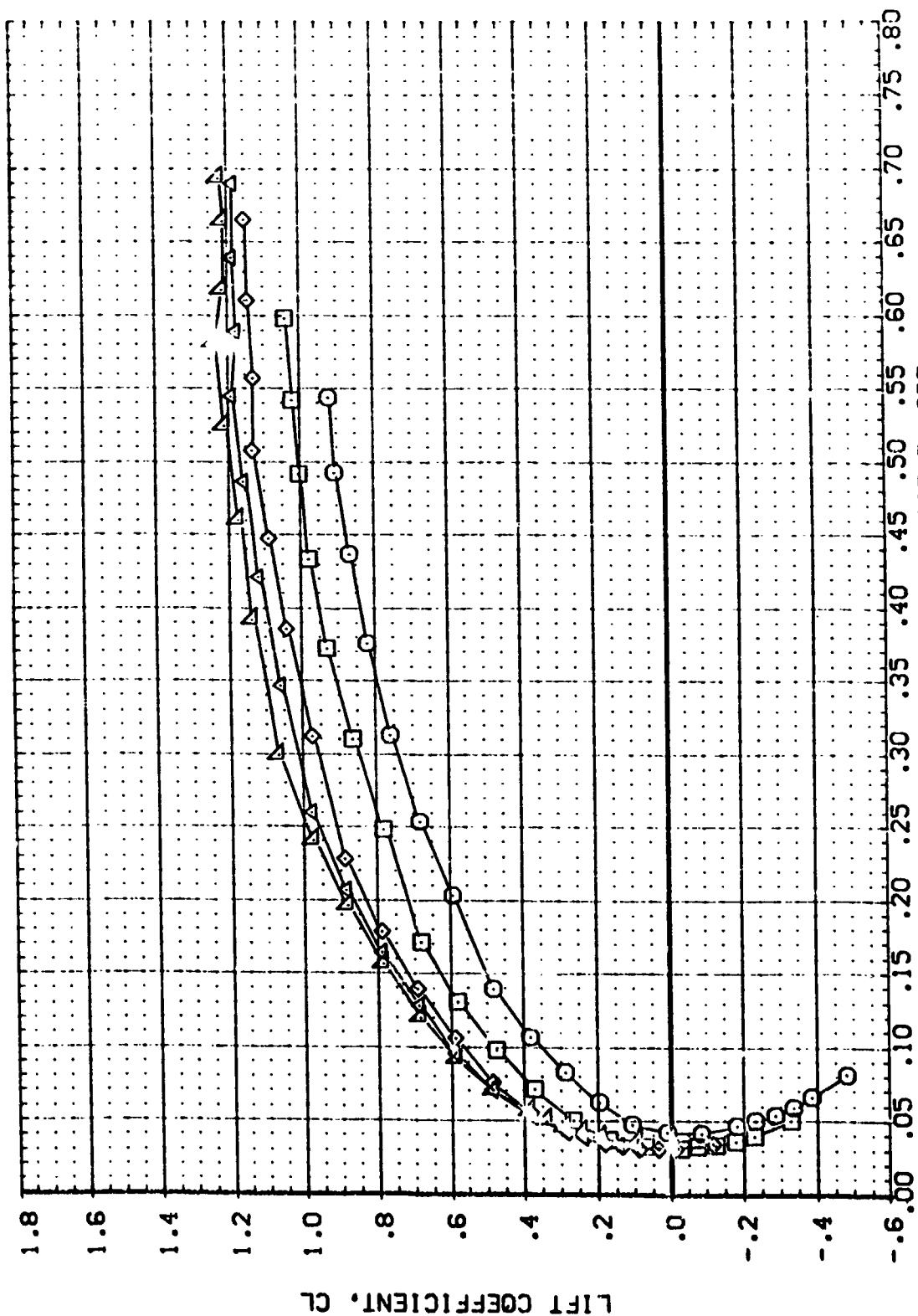
BETA ELEVON AILRON NACX/L
 .000 -20.000 .000
 .000 -10.000 .000
 .000 .000 .000
 .000 5.000 .000
 .000 10.000 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2298 INCHES
 XREF 37.9349 INCHES
 YREF 43.5974 INCHES
 ZREF .0000 INCHES
 SCALE 16.2000 INCHES
 SCALE .3105



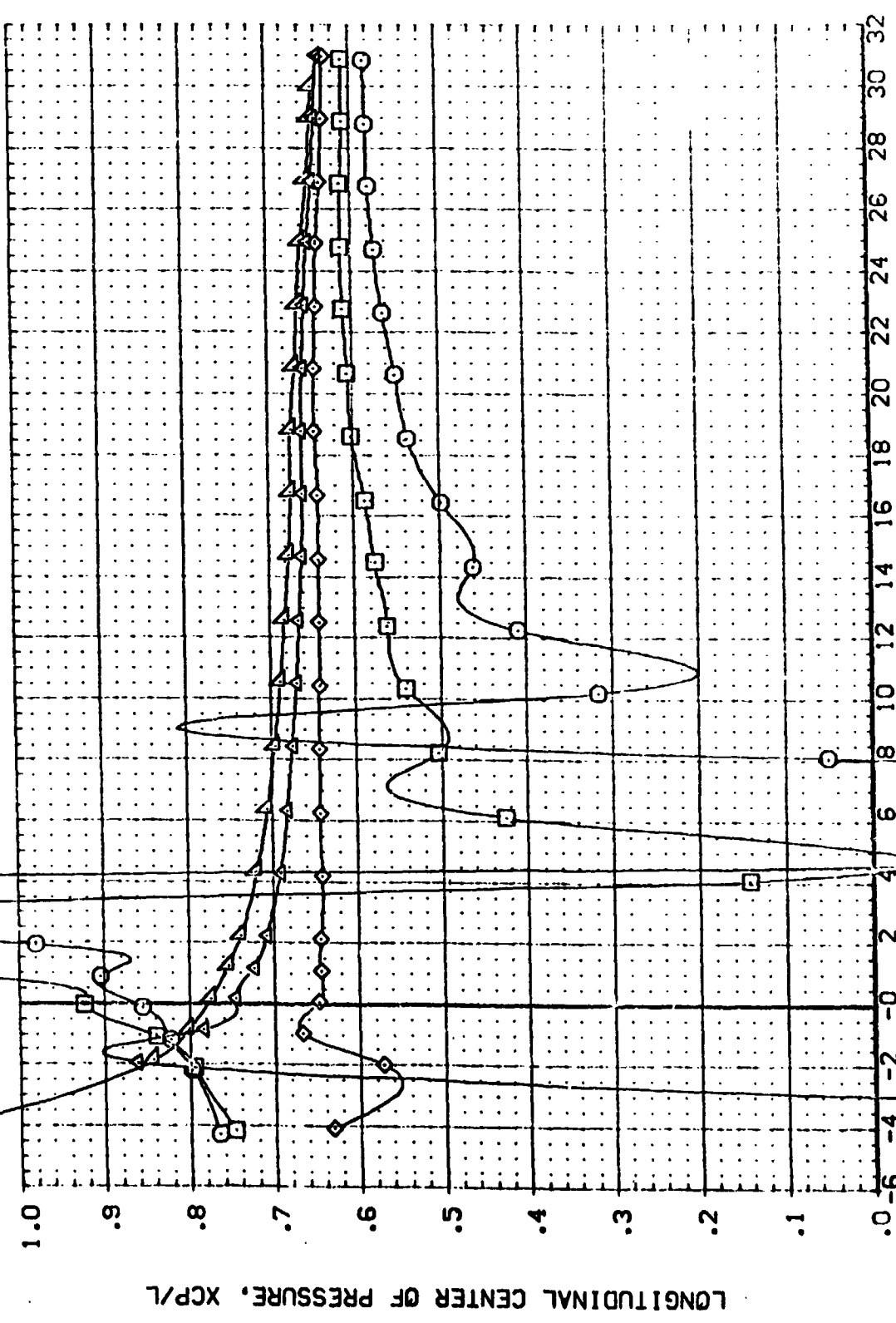
ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS
 (A)MACH = 0.20

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACK/L	REFERENCE INFORMATION
(A5012)	□	0A71A B16C5 D7 FIJ14V87 E18V3K3X10	.000	-20.000	.000	.000	SREF 4.422
(A5015)	□	0A71A B16C5 D7 FIJ14V87 E18V3K3X10	.000	-10.000	.000	.000	LREF 19.2268
(A5022)	□	0A71A B16C5 D7 FIJ14V87 E18V3K3X10	.000	5.000	.000	.000	BREF 37.9348
(A5017)	□	0A71A B16C5 D7 FIJ14V87 E18V3K3X10	.000	10.000	.000	.000	XREF 43.2874
(A5013)	□	0A71A B16C5 D7 FIJ14V87 E18V3K3X10	.000	10.000	.000	.000	YREF 16.2000
							ZREF 16.2000
							SCALE



ELEVON EFFECTIVENESS - 0.80 FERRY CONFIGURATION - J14 ABPS
(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(AUS012)	QA71A B16CS D7	.000	-20.000	.000	.000	SREF 4.4122 SQ.FT.
(AUS015)	QA71A B16CS D7	.000	-10.000	.000	.000	LREF 19.2299 INCHES
(AUS022)	QA71A B16CS D7	.000	5.000	.000	.000	BREF 37.9349 INCHES
(AUS017)	QA71A B16CS D7	.000	10.000	.000	.000	XREF 43.5874 INCHES
(AUS013)	QA71A B16CS D7	.000	10.000	.000	.000	ZREF 16.2000 INCHES
						SCALE .0005



ELEVON EFFECTIVENESS - B9B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

CONFIGURATION DESCRIPTION

BETA

ELEVON

AILRON:

NACX/L

REF

CON

CONI

ATTENTION

0A71A	016C5	07	F1J14V87	E18V3R3X10
0A71A	016C5	07	F1J14V87	E18V3R3X10
0A71A	016C5	07	F1J14V87	E18V3R3X10
0A71A	016C5	07	F1J14V87	E18V3R3X10
0A71A	016C5	07	F1J14V87	E18V3R3X10

888.888.888

88888888

2000

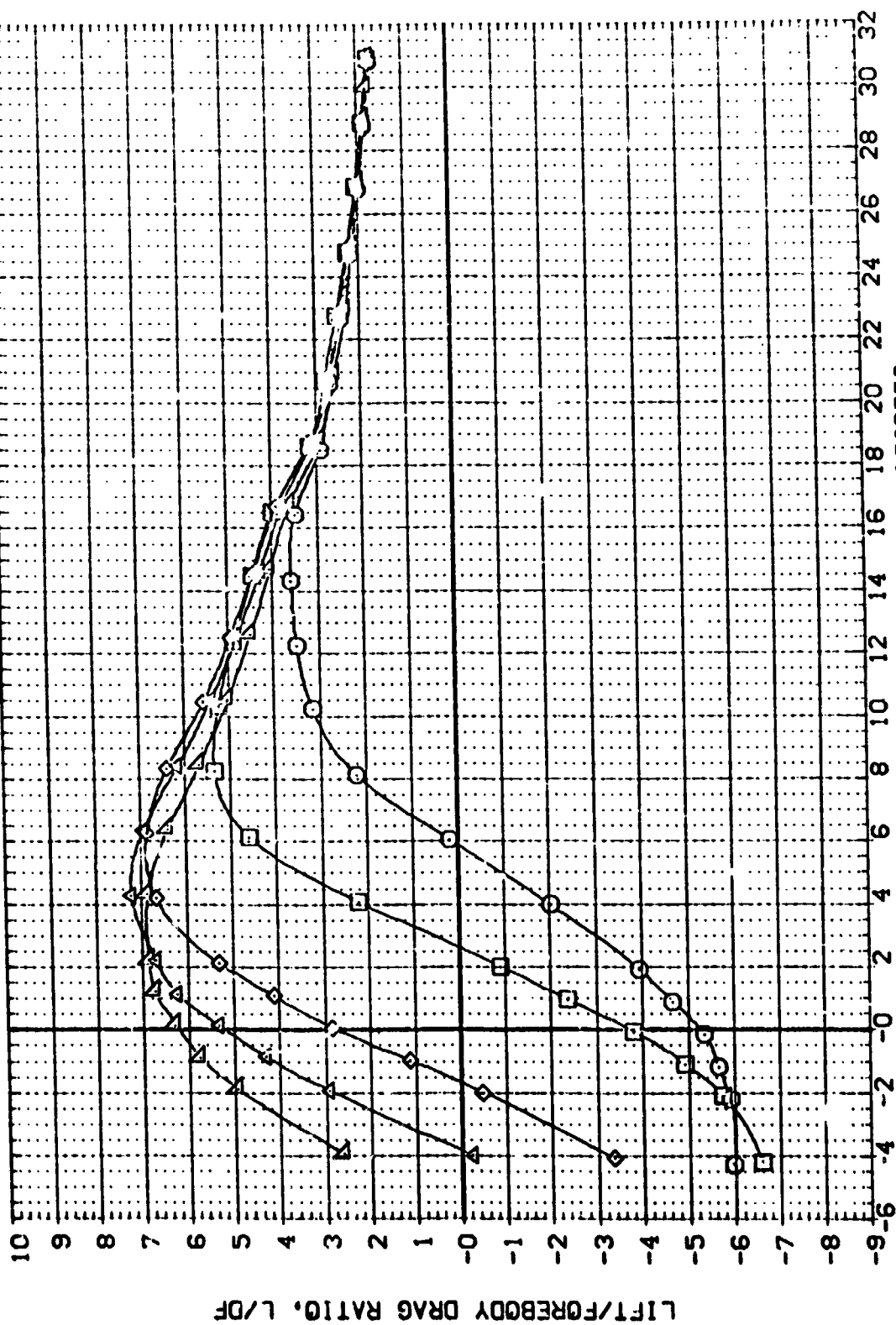
19
37
43 16

2295
2345
5074

() () () () ()

/ / / / /

- - - - -

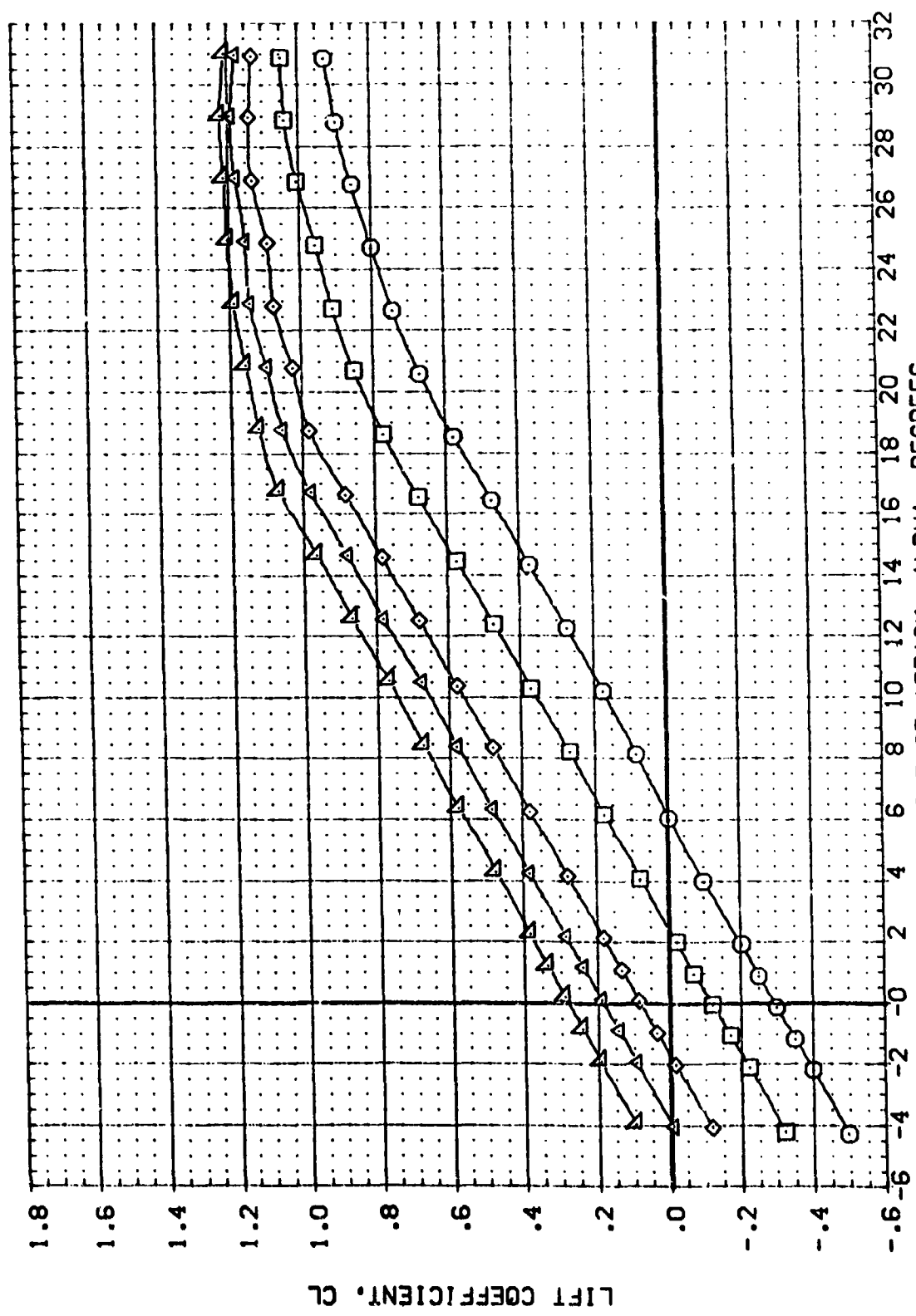


ANGLE OF ATTACK. ALPHA. DEGREES
-89B FERRY CONFIGURATION - J14 ABPS

$$C_A)_{MACH} = 0.20$$

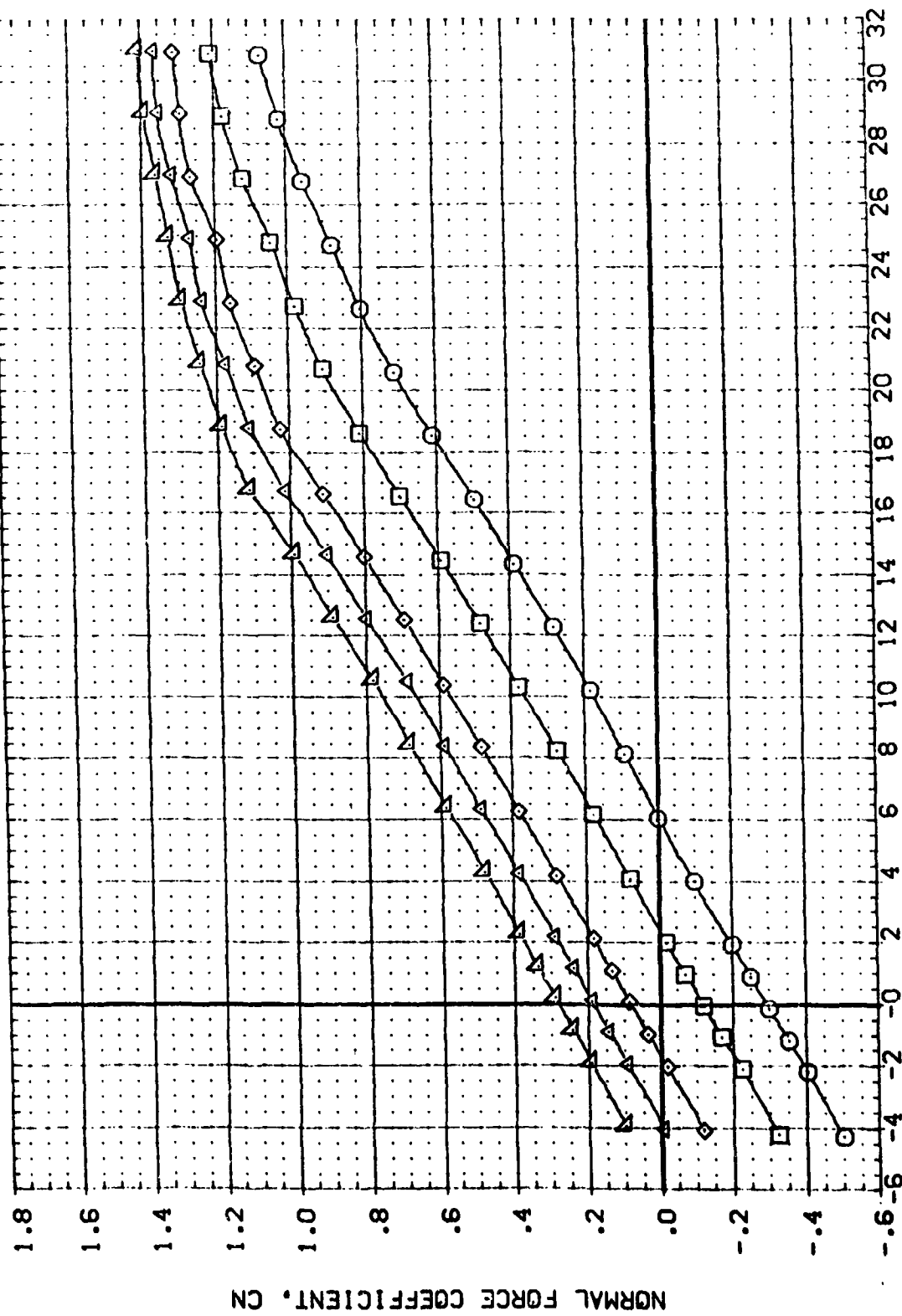
PAGE 20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACA/L	REFERENCE INFORMATION
(AD5032)	0A71A 816CS D7 F1J14V87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(AD5028)	0A71A 816CS D7 F1J14V87 E18V3R3X10	.000	-10.000	.000	.200	LREF 19.2299 ACRES
(AD5023)	0A71A 816CS D7 F1J14V87 E18V3R3X10	.000	.000	.000	.200	BREF 37.9348 ACRES
(AD5026)	0A71A 816CS D7 F1J14V87 E18V3R3X10	.000	5.000	.000	.200	XPRP 43.9974 ACRES
(AD5031)	0A71A 816CS D7 F1J14V87 E18V3R3X10	.000	10.000	.000	.200	YMRP 16.2000 ACRES
						SCALE .0405



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT
 (A)MACH = 0.20
 PAGE 2:

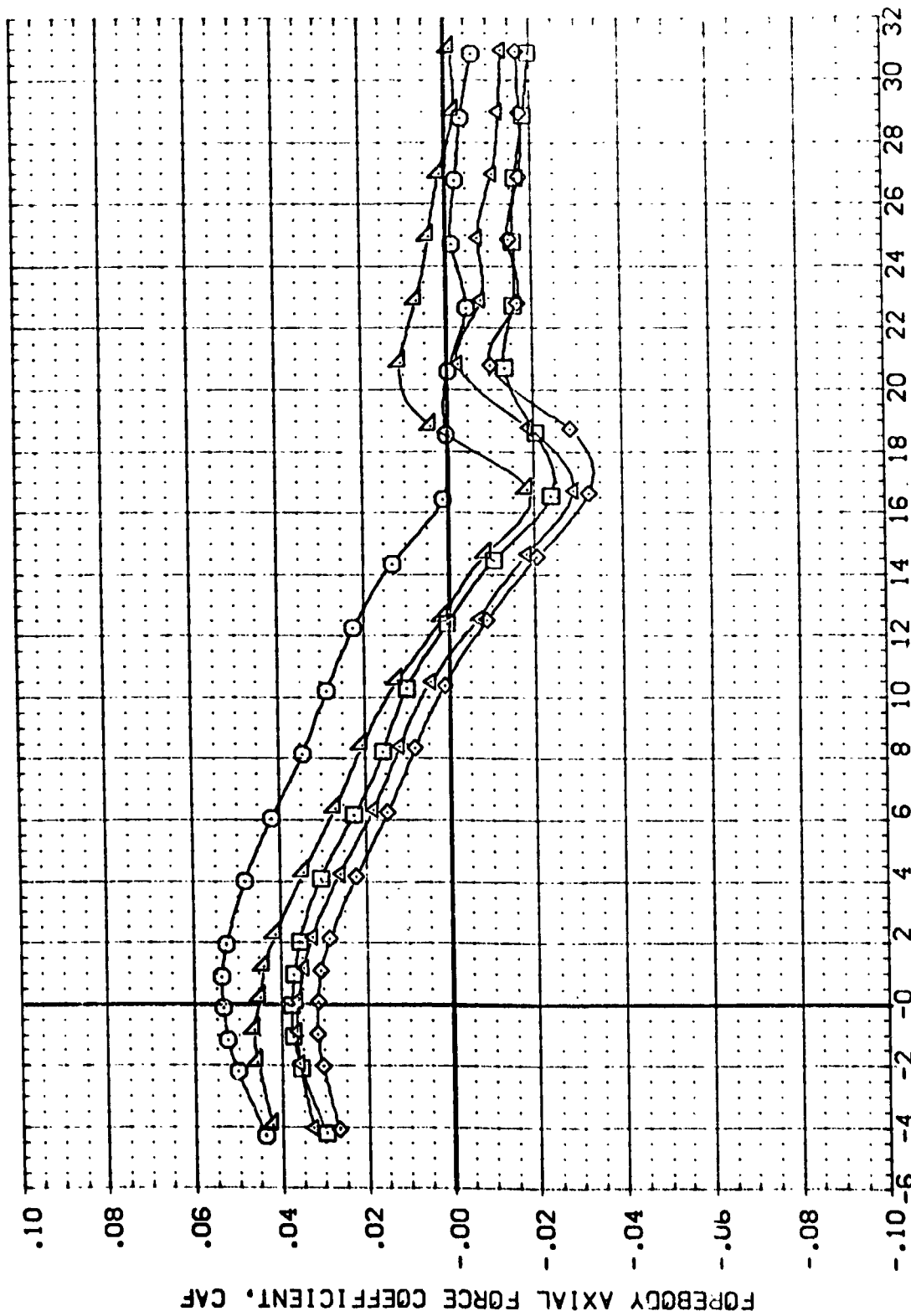
DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION	SCALE
(ADS032)	CA71A	B16CS D7	0.00	-20.000	.000	.200	SREF	4.4122
(ADS028)	CA71A	B16CS D7	.000	-10.000	.000	.200	LREF	19.2299
(ADS023)	CA71A	B16CS D7	.000	.000	.000	.200	BREF	47.9349
(ADS026)	CA71A	B16CS D7	.000	5.000	.000	.200	XMRP	43.5974
(ADS031)	CA71A	B16CS D7	.000	10.000	.000	.200	ZMRP	16.2000
							SCALE	.0005



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

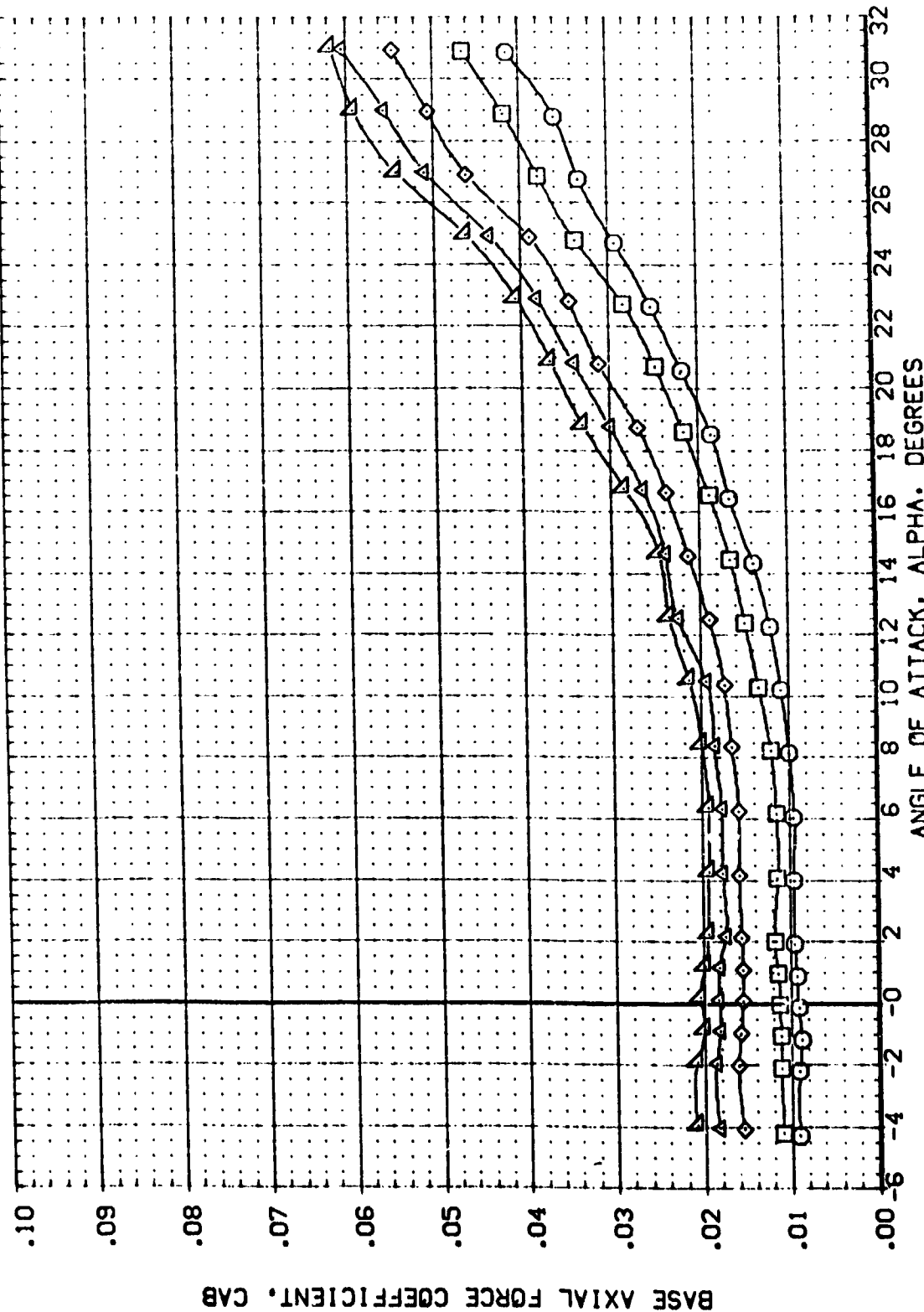
(A)MACH = 0.20

DATA SET SYMBO	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACA/L	REFERENCE INFORMATION
(A)S032)	CA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(A)S028)	CA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	-10.000	.000	.200	LREF 19.2299 INCHES
(A)S023)	CA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	BREF 37.9349 INCHES
(A)S026)	CA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	5.000	.000	.200	XMRP 43.5874 INCHES
(A)S031)	CA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	10.000	.000	.200	YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0400



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT
 (A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILRCL	MACX/L	REFERENCE INFORMATION
(AS032)	0A71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	-20.000	.000	.200	4.4122 SQ.FT.
(AS028)	0A71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	-10.000	.000	.200	19.2299 INCHES
(AS023)	0A71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	37.9349 INCHES
(AS026)	0A71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	5.000	.000	.200	43.5974 INCHES
(AS031)	0A71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	10.000	.000	.200	16.2000 INCHES
						SCALE



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

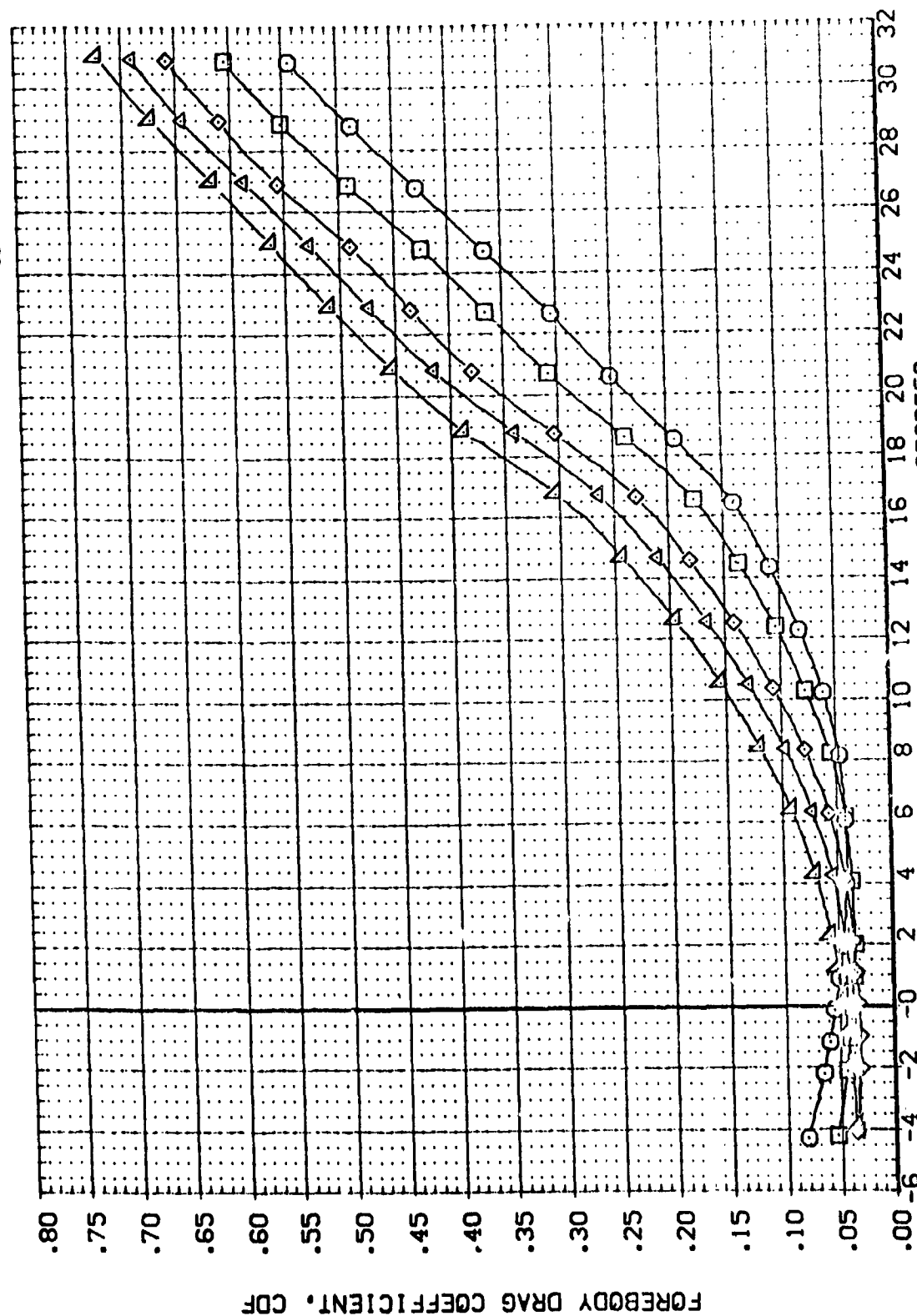
(A)MACH = 0.20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AD5032) DA71A B16CS D7 F1J14V87 E18V3R3X10
 (AD5028) CA71A B16CS D7 F1J14V87 E18V3R3X10
 (AD5023) CA71A B16CS D7 F1J14V87 E18V3R3X10
 (AD5026) DA71A B16CS D7 F1J14V87 E18V3R3X10
 (AD5031) DA71A B16CS D7 F1J14V87 E18V3R3X10

BETA ELEVON AILRON NACX/L
 .000 -20.000 .000 .200
 .000 -10.000 .000 .200
 .000 5.000 .000 .200
 .000 10.000 .000 .200

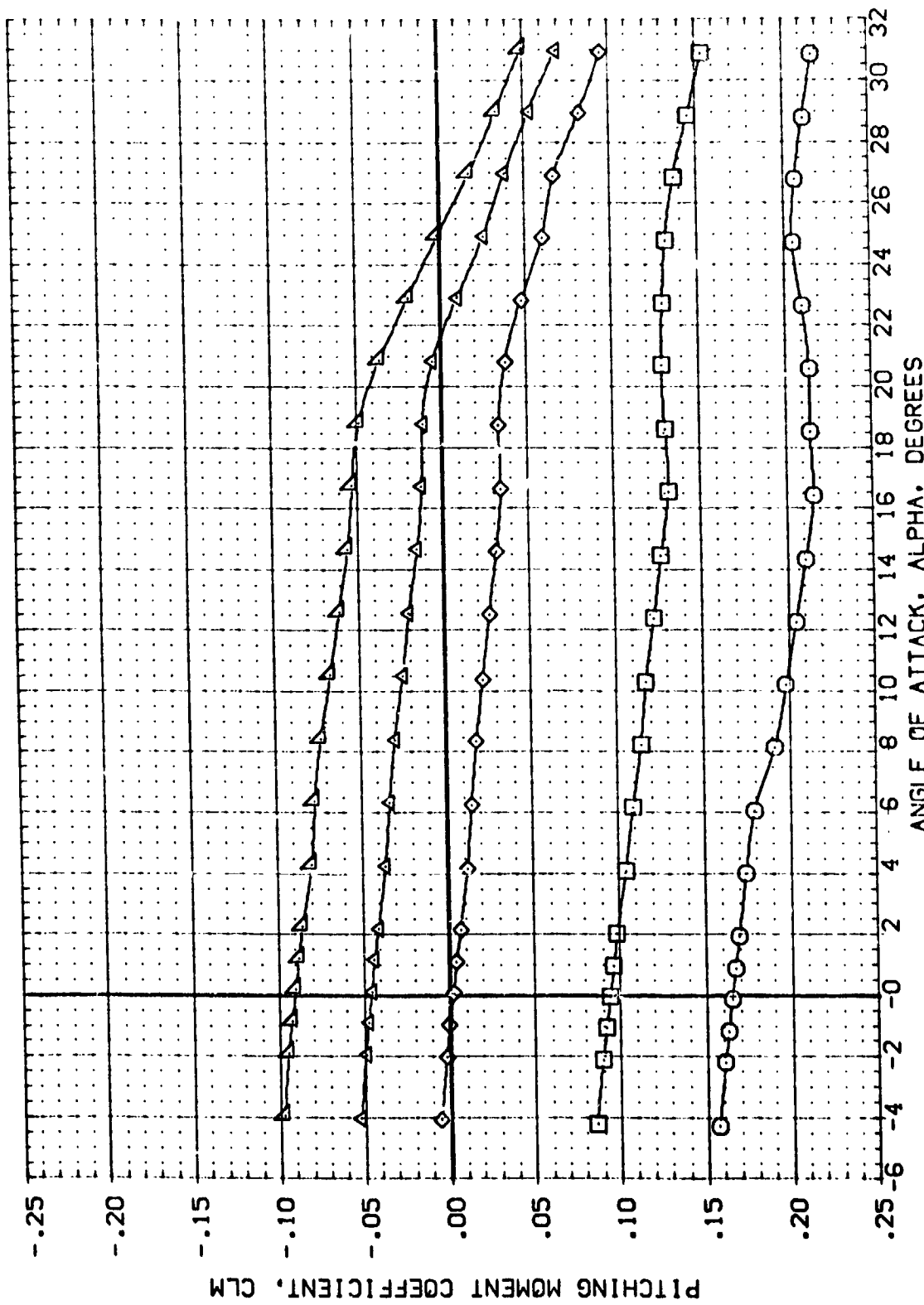
REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2289 INCHES
 BREF 37.9319 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACK/L	REFERENCE INFORMATION
(A05032)	0A71A B16CS D7 F1J14V87 E18V33X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(A05028)	0A71A B16CS D7 F1J14V87 E18V33X10	.000	-10.000	.000	.200	LREF 19.2259 INCHES
(A05023)	0A71A B16CS D7 F1J14V87 E18V33X10	.000	.000	.000	.200	BREF 37.9349 INCHES
(A05026)	0A71A B16CS D7 F1J14V87 E18V33X10	.000	5.000	.000	.200	XMRP 43.5974 INCHES
(A05031)	0A71A B16CS D7 F1J14V87 E18V33X10	.000	10.000	.000	.200	YMRP 16.2000 INCHES
						ZMRP .0405 SCALE



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J14 ABPS MOVED AFT

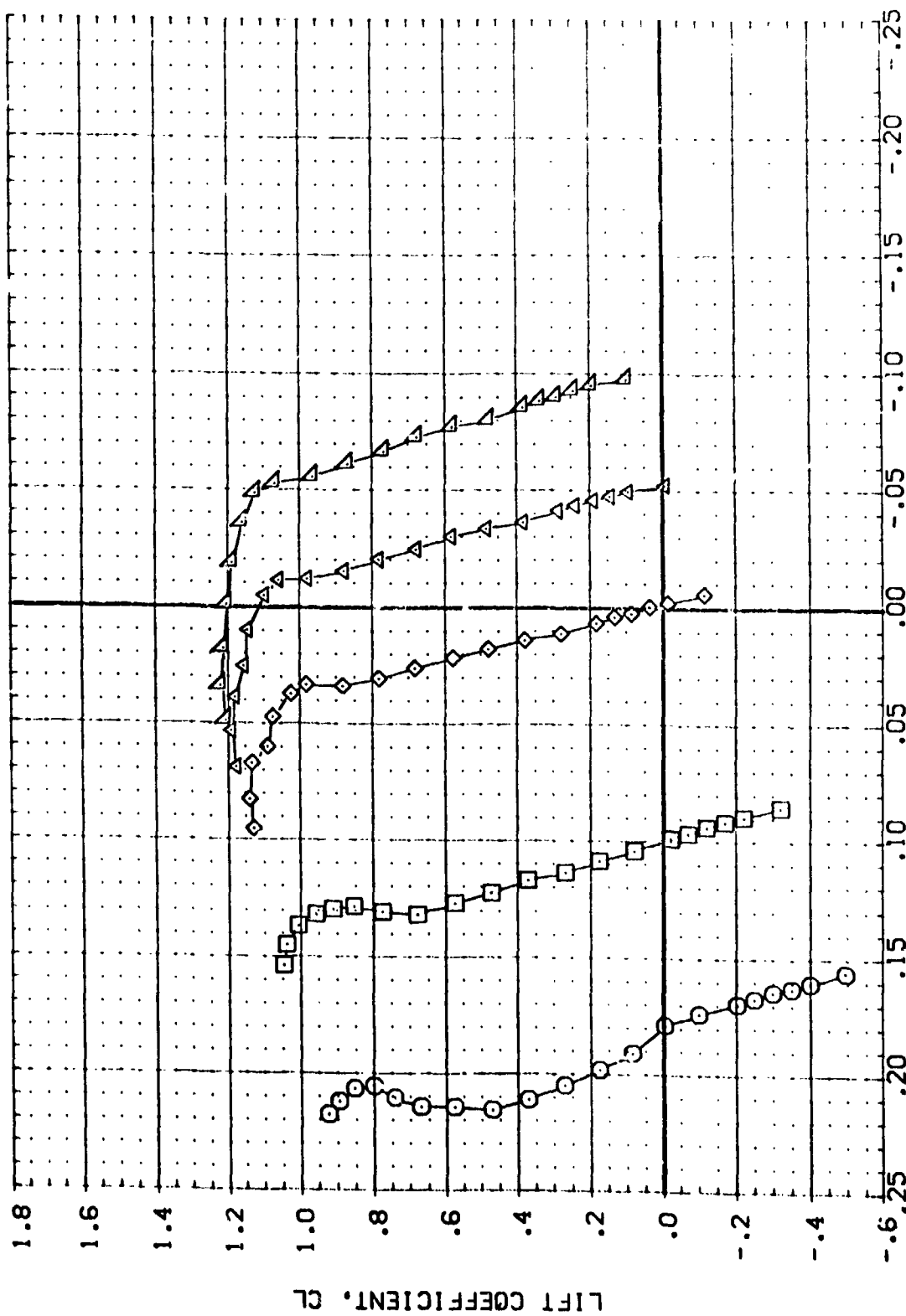
(A)MACH = 0.20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A) 032) 071A B:655 D7 F1014V87 E18V3R3X10
 (A) 028) 071A B:655 D7 F1014V87 E18V3R3X10
 (A) 023) 071A B:655 D7 F1014V87 E18V3R3X10
 (A) 026) 071A B:655 D7 F1014V87 E18V3R3X10
 (A) 031) 071A B:655 D7 F1014V87 E18V3R3X10

BETA ELEVON AILRON NACX/L
 .000 -20.000 .000 .200
 .000 -10.000 .000 .200
 .000 .000 .000 .200
 .000 5.000 .000 .200
 .000 10.000 .000 .200

REFERENCE INFORMATION
 SREF 4.4122 SC.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES



PITCHING MOMENT COEFFICIENT, CLM

ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

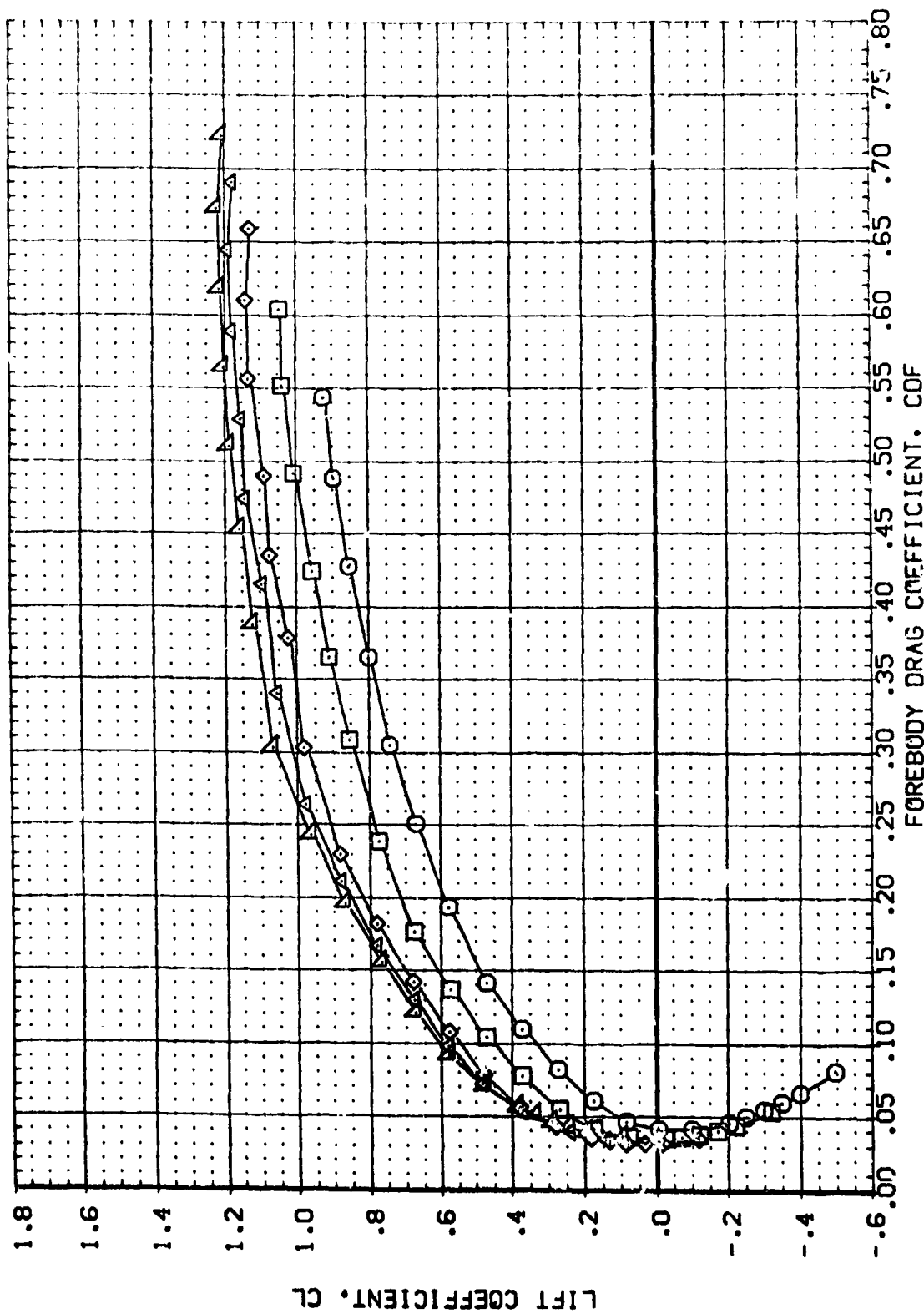
(A)MACH = 0.20

PAGE

27

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A05032)	0A71A B16CS D7 F1J14V87 E18V3K3X10
(A05028)	0A71A B16CS D7 F1J14V87 E18V3K3X10
(A05023)	0A71A B16CS D7 F1J14V87 E18V3K3X10
(A05026)	0A71A B16CS D7 F1J14V87 E18V3K3X10
(A05031)	0A71A B16CS D7 F1J14V87 E18V3K3X10

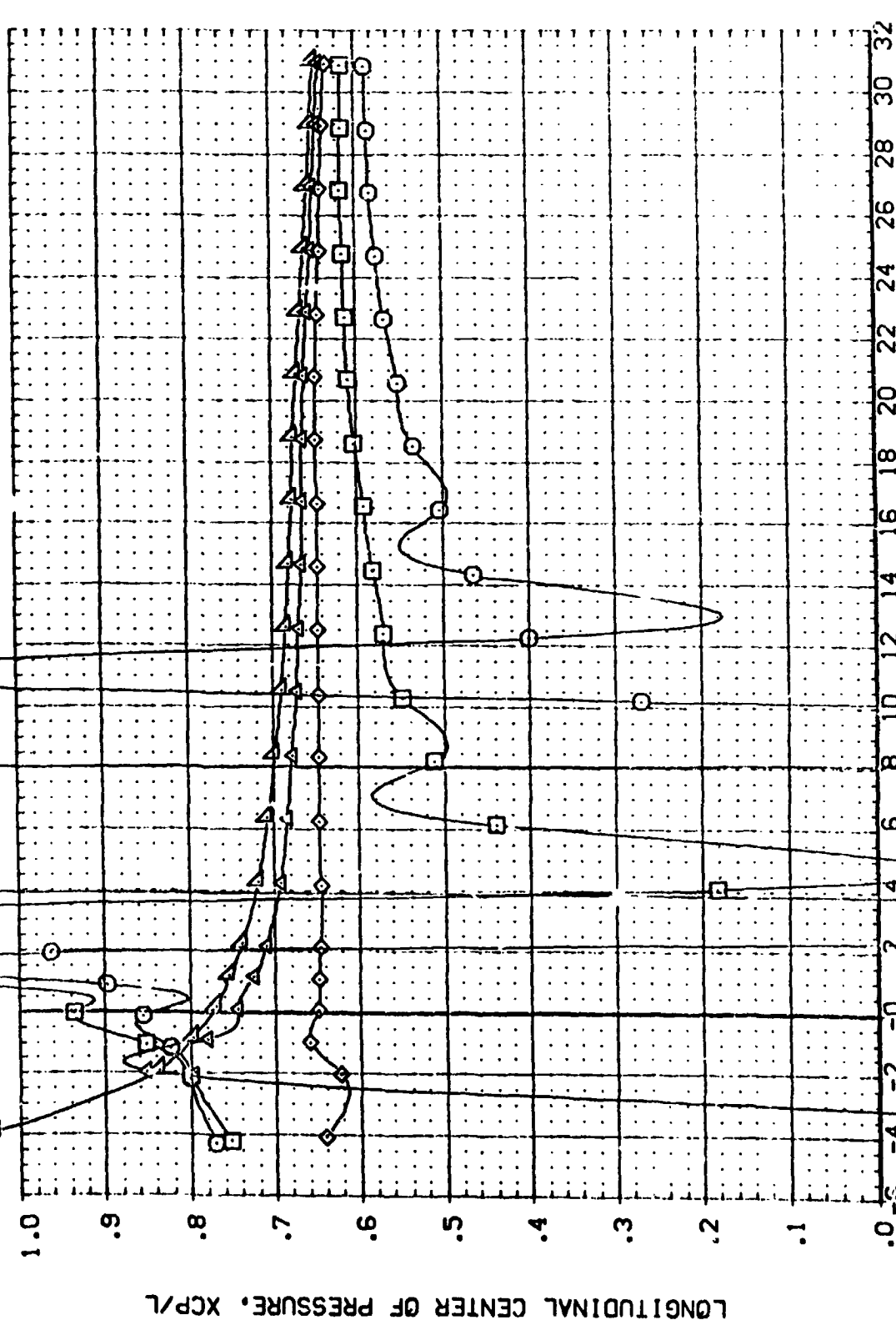
BETA	ELEVON	AIRLON	NACK/L	REFERENCE INFORMATION
.000	-20.000	.000	.200	SREF 4.4122 CO.FT.
.000	-10.000	.000	.200	LREF 19.2299 INCHES
.000	.000	.000	.200	BREF 37.9349 INCHES
.000	5.000	.000	.200	XMRP 43.5974 INCHES
.000	10.000	.000	.200	YMRP 16.2000 INCHES
				ZMRP .0405 INCHES
				SCALE



ELEVON EFFECTIVENESS -998 FERRY CONFIGURATION - J14 ABFS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AIRLON	NACK/L	REFERENCE INFORMATION
(A05032)	B16CS	F1311V87 E18V3KX10	.000	-20.000	.000	.200	SKEE 4.4122 50.00
(A05028)	B16CS	F1311V87 E18V3KX10	.000	-10.000	.000	.200	LREF 19.2299 INCHES
(A05023)	B16CS	F1311V87 E18V3KX10	.000	5.000	.000	.200	BREF 37.9349 INCHES
(A05026)	B16CS	F1311V87 E18V3KX10	.000	10.000	.000	.200	XMRP 43.5974 INCHES
(A05031)	B16CS	F1311V87 E18V3KX10	.000	10.000	.000	.200	ZMRP 16.2000 INCHES
							SCALE .0405



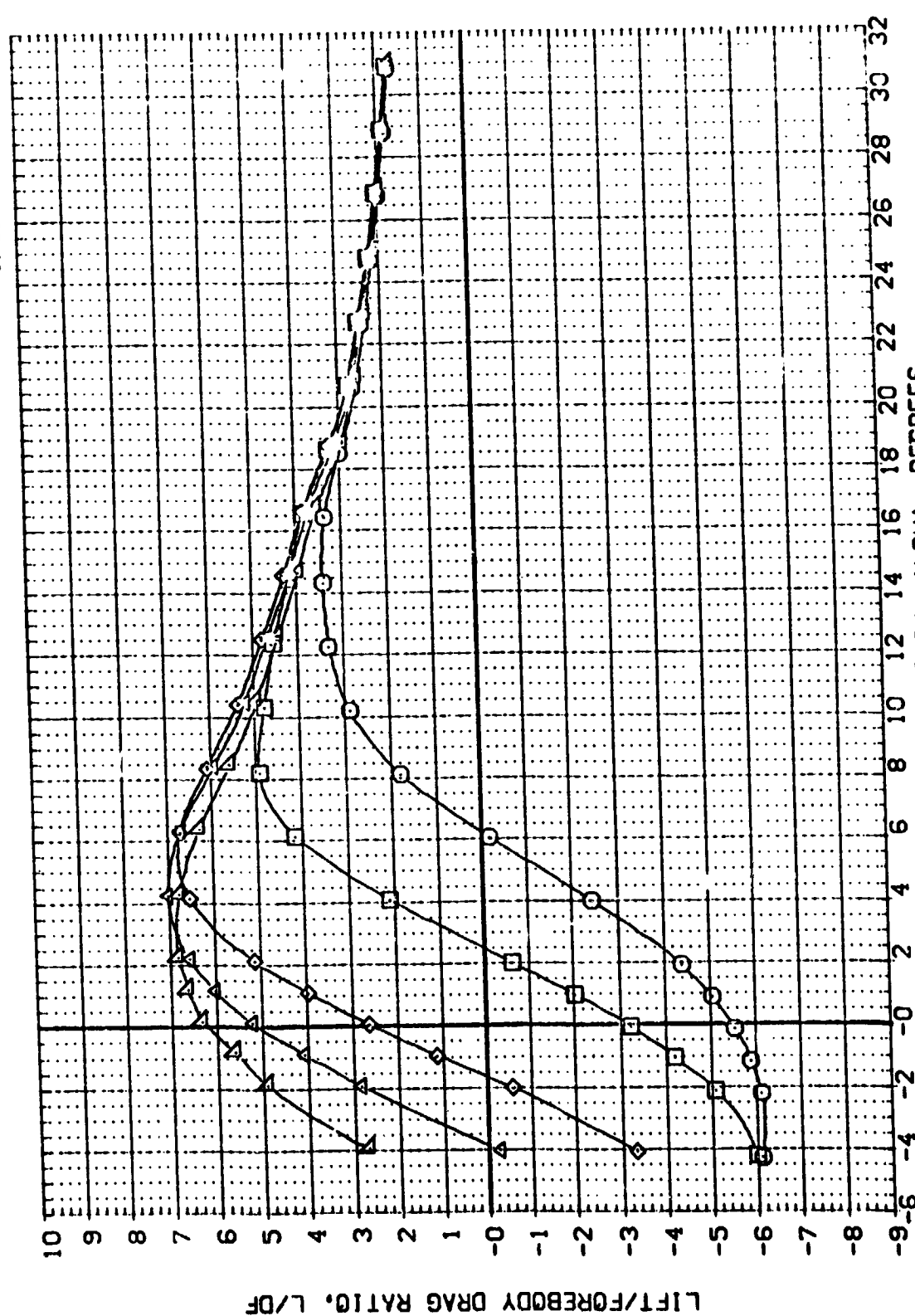
-89B FERBY CONFIGURATION - J14 ABPS MOVED AFT

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
(AUS032)	0A71A B16C5 D7	FIJ14V87 E18V3R3X10
(AUS028)	0A71A B16C5 D7	FIJ14V87 E18V3R3X10
(AUS023)	0A71A B16C5 D7	FIJ14V87 E18V3R3X10
(AUS026)	0A71A B16C5 D7	FIJ14V87 E18V3R3X10
(AUS031)	0A71A B16C5 D7	FIJ14V87 E18V3R3X10

BETA ELEVON AILRON NACA/L REFERENCE INFORMATION

BETA	ELEVON	AILRON	NACA/L	REFERENCE INFORMATION
.000	-20.000	.000	.200	SREF 4.4122 50. FT.
.000	-10.000	.000	.200	LREF 19.2299 INCHES
.000	.000	.000	.200	BREF 37.9349 INCHES
.000	.000	.000	.200	XVRP 43.5974 INCHES
.000	5.000	.000	.200	ZMRP 15.0000 INCHES
.000	10.000	.000	.200	SCALE .0400 SCALE

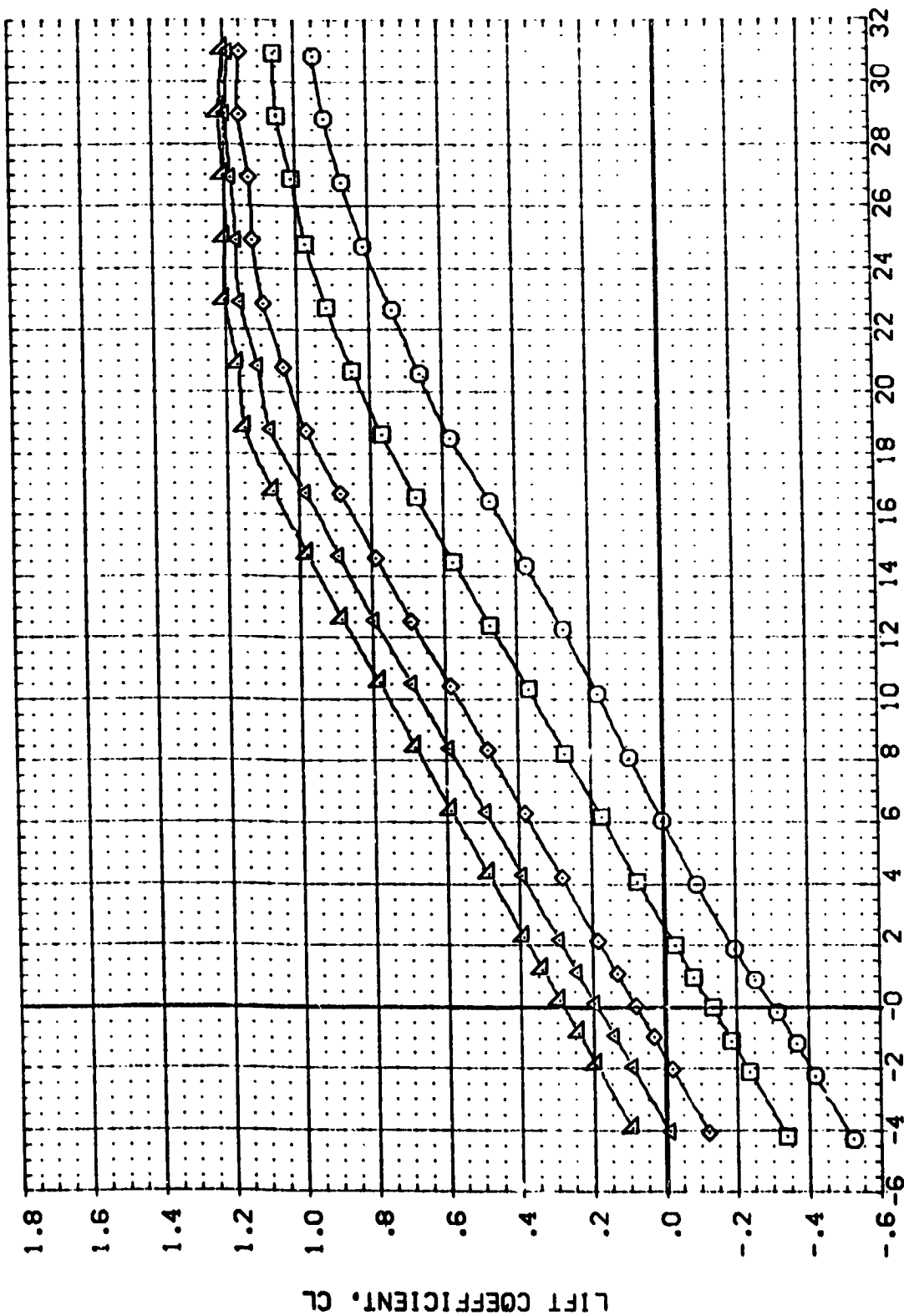


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20



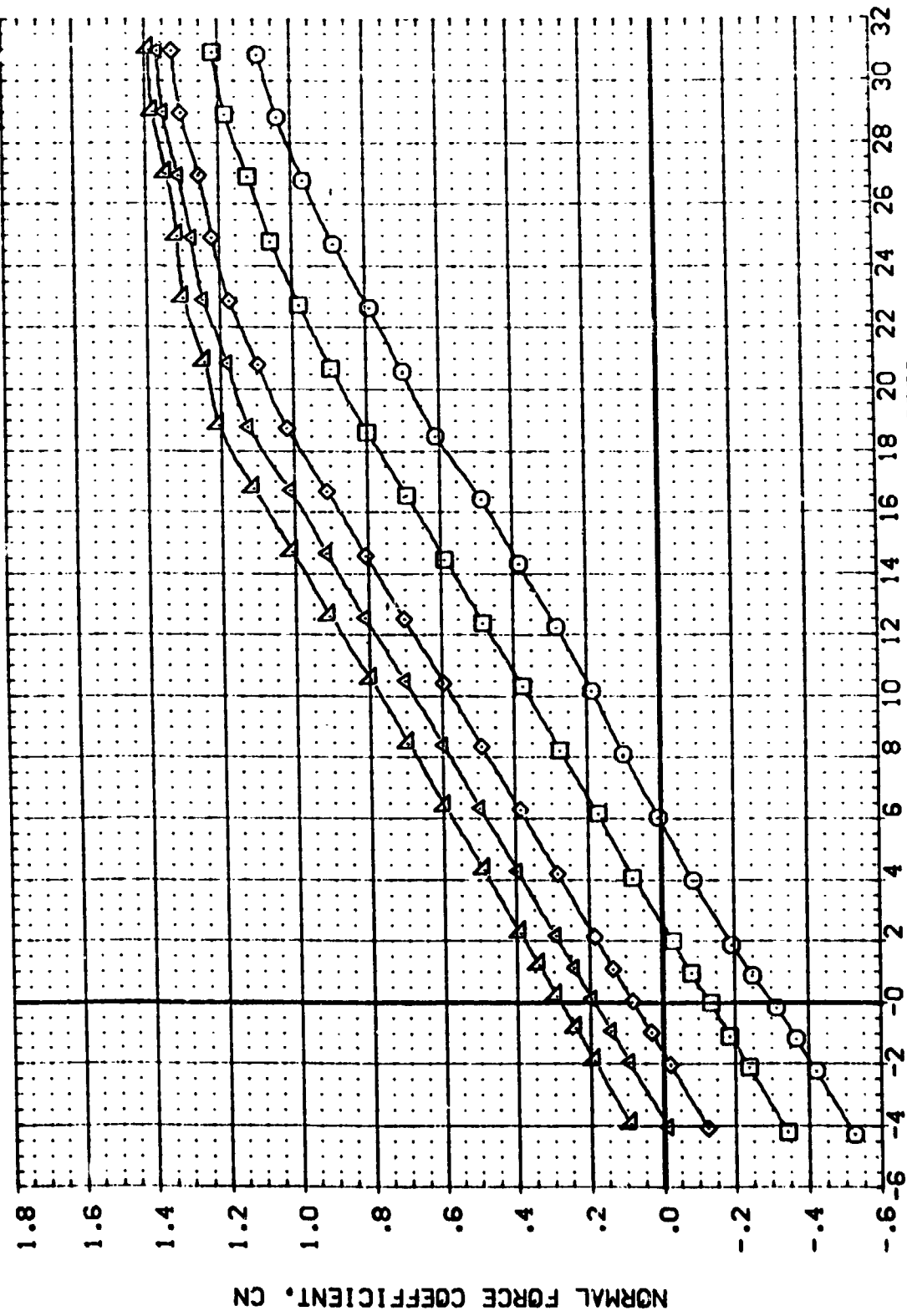
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILRON	NACX/L	REFERENCE INFORMATION
(AUS056)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	-20.000	.000	.000	SREF 4.4122 SC.FT.
(AUS051)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	-10.000	.000	.000	LREF 19.2289 INCHES
(AUS046)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	.000	.000	.000	BREF 37.9349 INCHES
(AUS049)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	5.000	.000	.000	XREF 43.5974 INCHES
(AUS054)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.000	YREF 16.0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405 INCHES



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		SCALE	
(A05056)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	4.4122	NO
(A05057)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	19.2299	NO
(A05058)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	37.9349	NO
(A05059)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	43.5974	NO
(A05060)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	16.2035	NO
(A05061)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	16.2035	NO
(A05062)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	16.2035	NO
(A05063)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	16.2035	NO
(A05064)	0A71A	B16C5	D7	FIJ17V87	E18V3K3X10	16.2035	NO

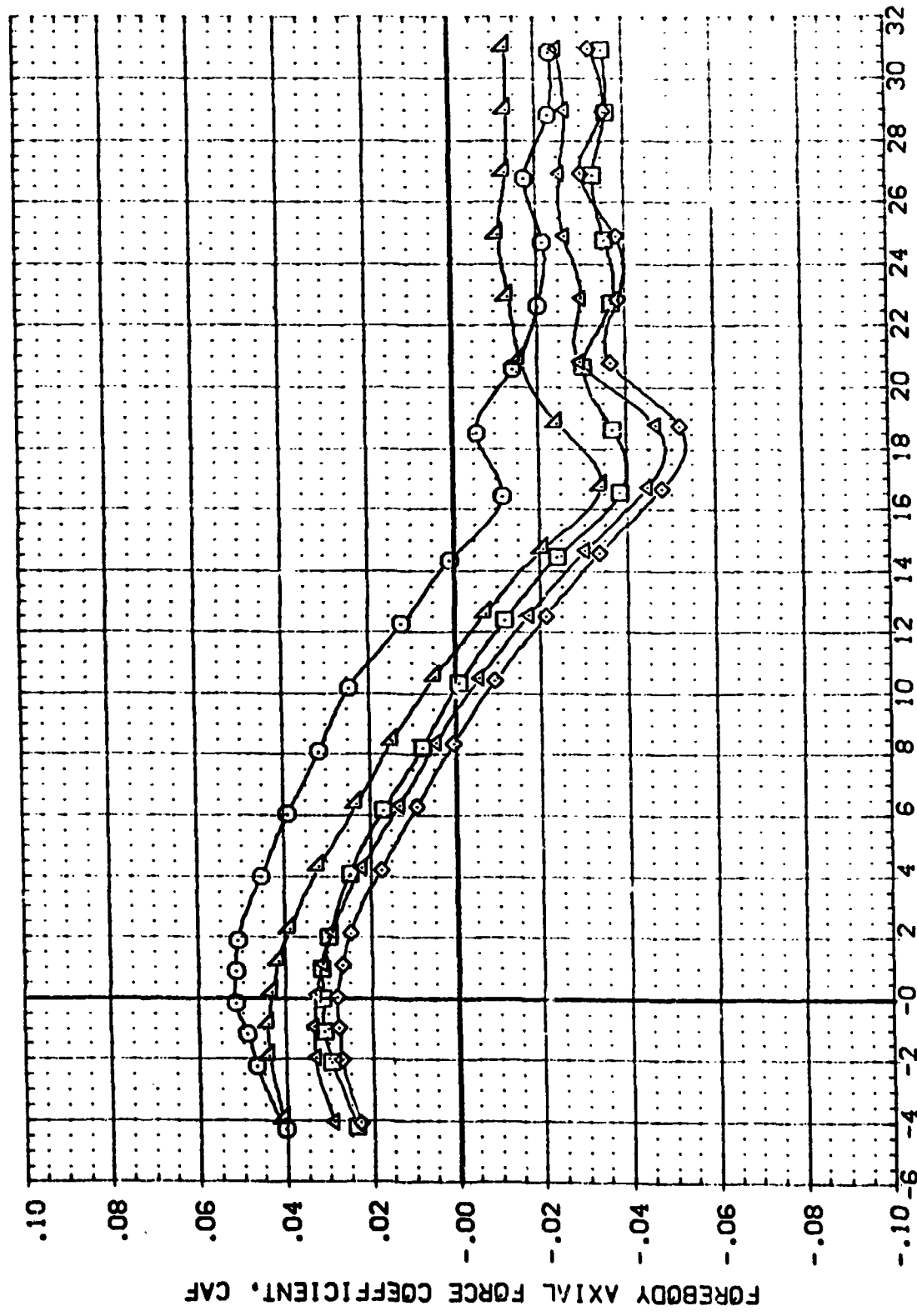


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20



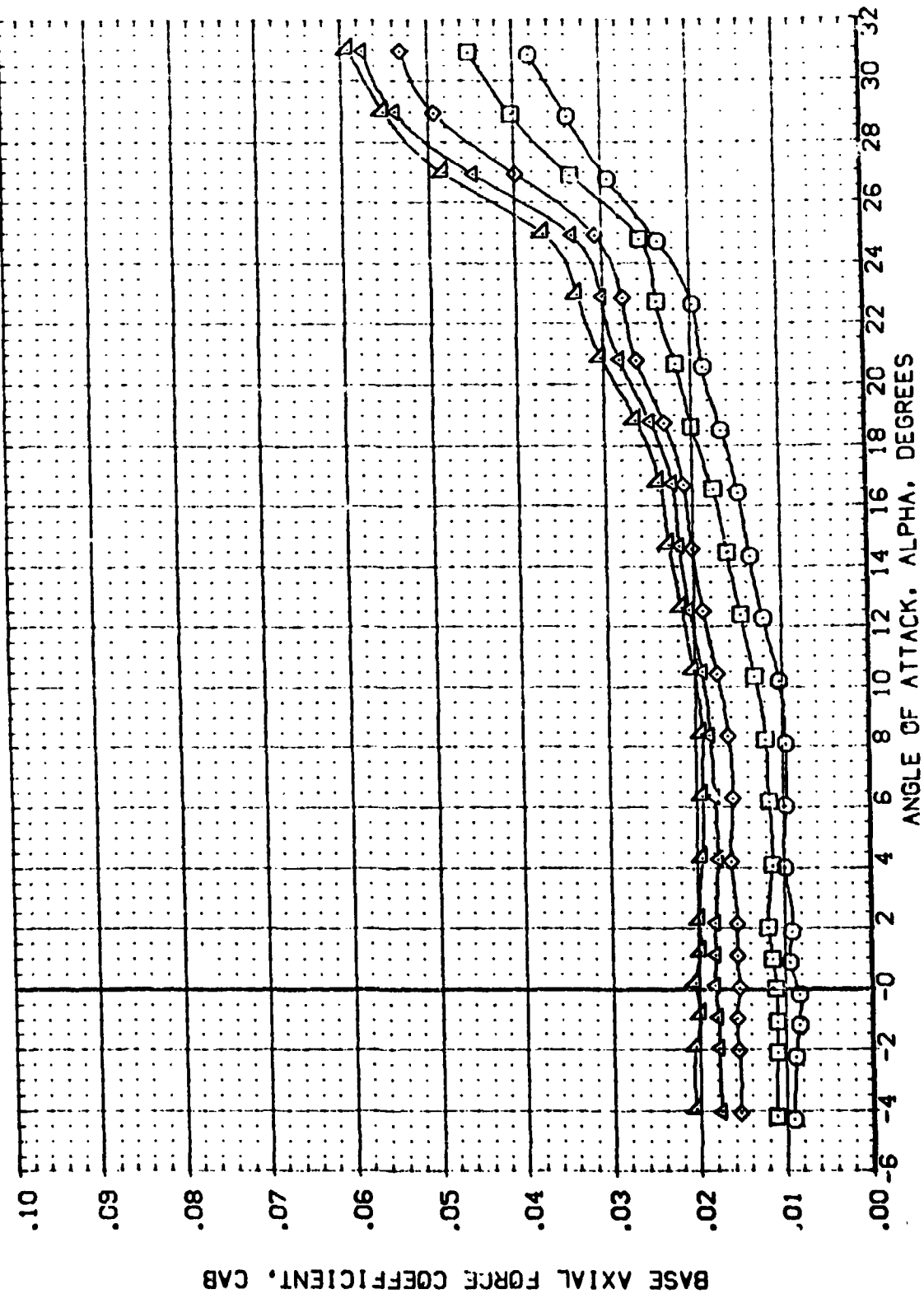
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACK/L	REFERENCE INFORMATION
(A05056)	0A71A B16C5 D7 F107V87 E18V3KX10	.000	-20.000	.000	.000	SREF 4.4122 SO.FT. INCHES
(A05057)	0A71A B16C5 D7 F107V87 E18V3KX10	.000	-10.000	.000	.000	LREF 19.2299 INCHES
(A05046)	0A71A B16C5 D7 F107V87 E18V3KX10	.000	5.000	.000	.000	BREF 37.9349 INCHES
(A05049)	0A71A B16C5 D7 F107V87 E18V3KX10	.000	10.000	.000	.000	XREF 43.5974 INCHES
(A05054)	0A71A B16C5 D7 F107V87 E18V3KX10	.000	10.000	.000	.000	YREF 16.2000 INCHES
						ZREF .0405 SCALE



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

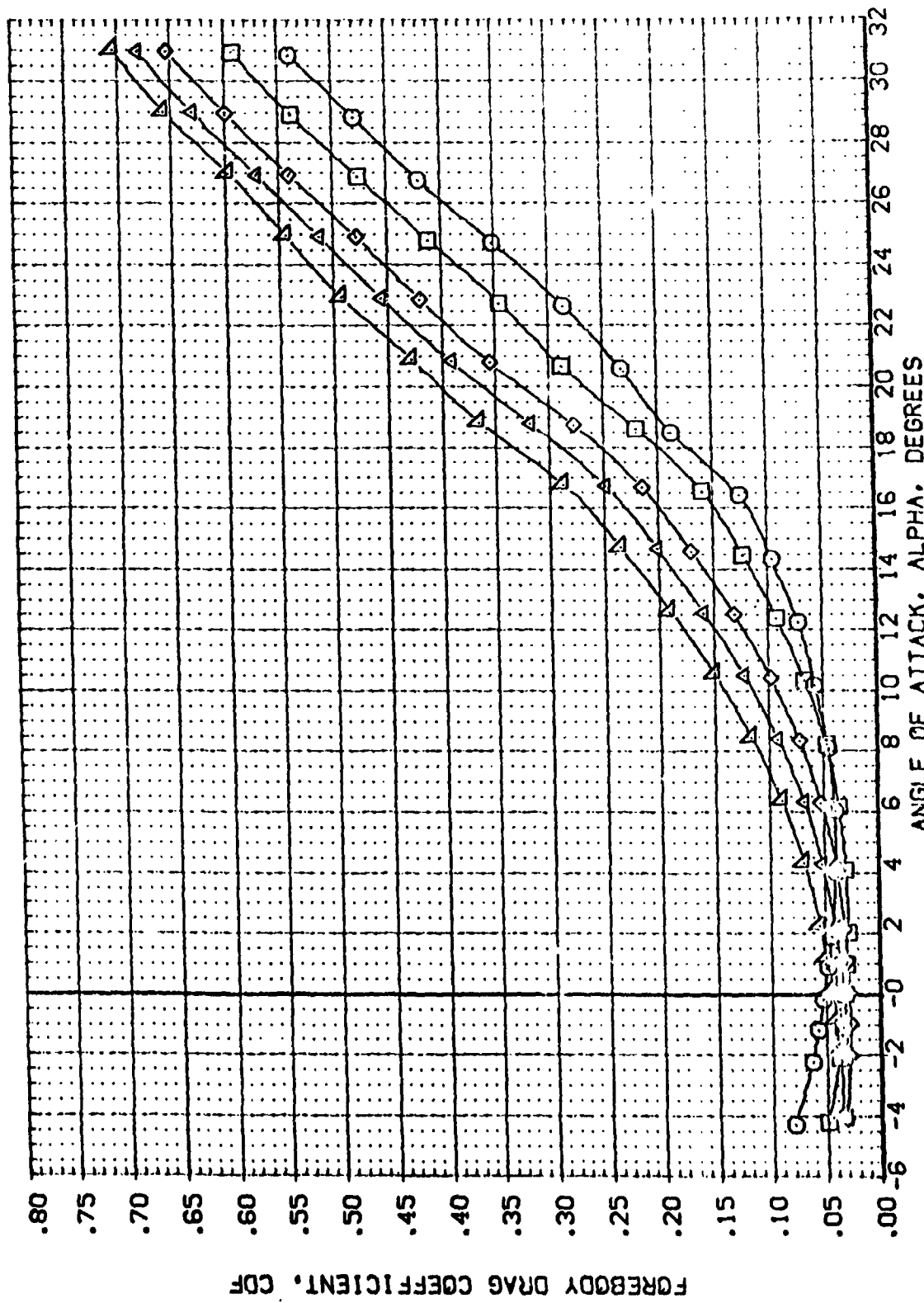
DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE	INFORMATION
(ADSC56)	□	0A71A	B16CS D7	.000	-20.000	.000	.000	SREF	4.4122
(ADSC57)	◇	0A71A	B16CS D7	.000	-10.000	.000	.000	LREF	19.2298
(ADSC58)	△	0A71A	B16CS D7	.000	5.000	.000	.000	BREF	37.9348
(ADSC59)	○	0A71A	B16CS D7	.000	10.000	.000	.000	XREF	43.9374
(ADSC60)		0A71A	B16CS D7	.000		.000	.000	YREF	16.2000
(ADSC61)		0A71A	B16CS D7	.000		.000	.000	ZREF	.0000
(ADSC62)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC63)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC64)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC65)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC66)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC67)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC68)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC69)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC70)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC71)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC72)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC73)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC74)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC75)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC76)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC77)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC78)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC79)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC80)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC81)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC82)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC83)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC84)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC85)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC86)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC87)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC88)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC89)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC90)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC91)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC92)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC93)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC94)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC95)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC96)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC97)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC98)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC99)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000
(ADSC100)		0A71A	B16CS D7	.000		.000	.000	SCALE	.0000



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS

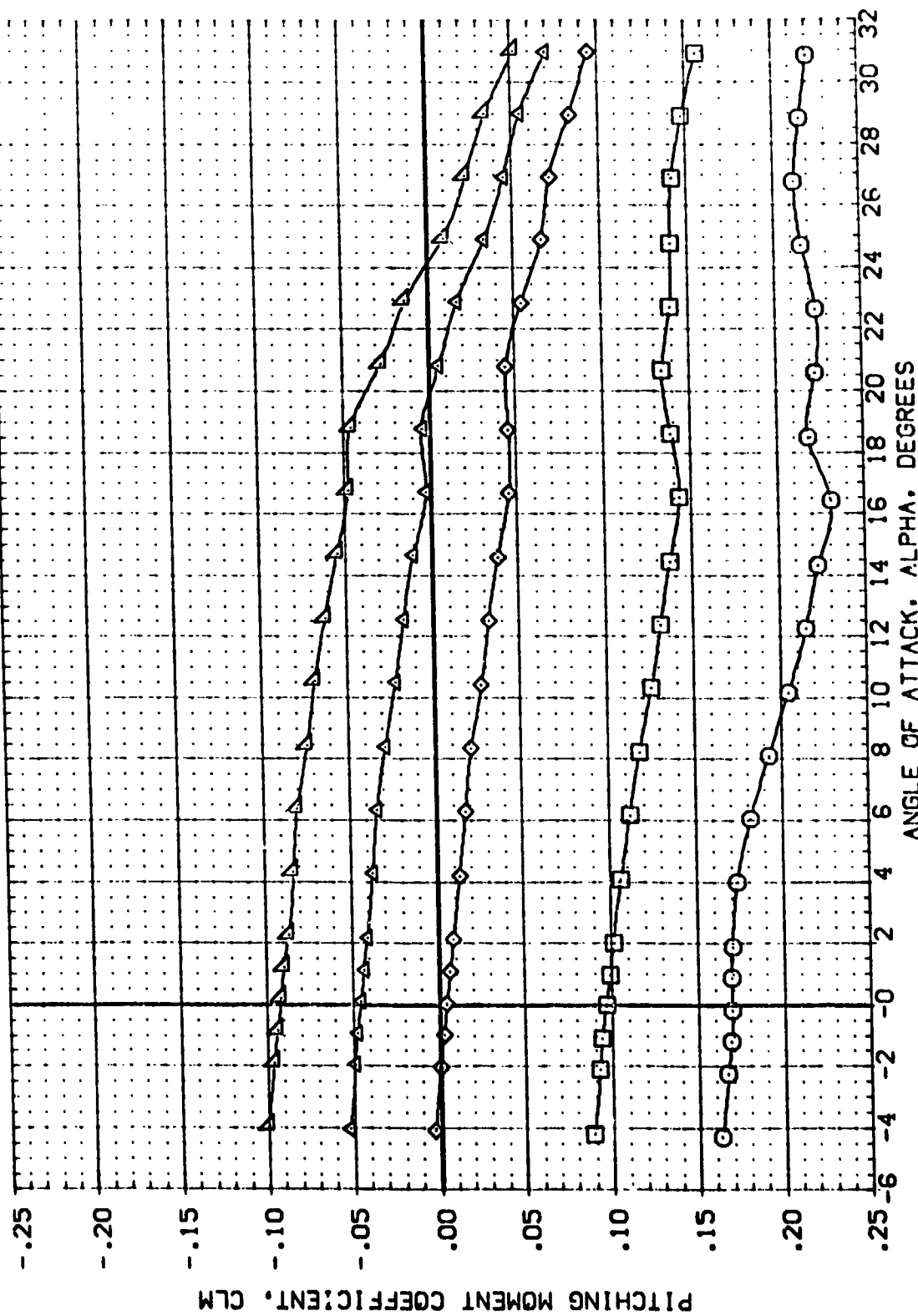
(M)MACH = 0.20

DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AILRON	NACVAL	REFERENCE INFORMATION
(ADSC6)	□	0A71A	B16C5 D7	.000	-20.000	.000	.000	SREF 4.4122 SC.FT.
(ADSC1)	○	0A71A	B16C5 D7	.000	-10.000	.000	.000	LREF 19.2299 INCHES
(ADSC46)	△	0A71A	B16C5 D7	.000	.000	.000	.000	BREF 37.9349 INCHES
(ADSC49)	◇	0A71A	B16C5 D7	.000	5.000	.000	.000	XREF 43.5974 INCHES
(ADSC54)	▽	0A71A	B16C5 D7	.000	10.000	.000	.000	YREF .0000 INCHES
								ZREF 16.2000 INCHES
								SCALE .0405



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS
(A)MACH = 0.20

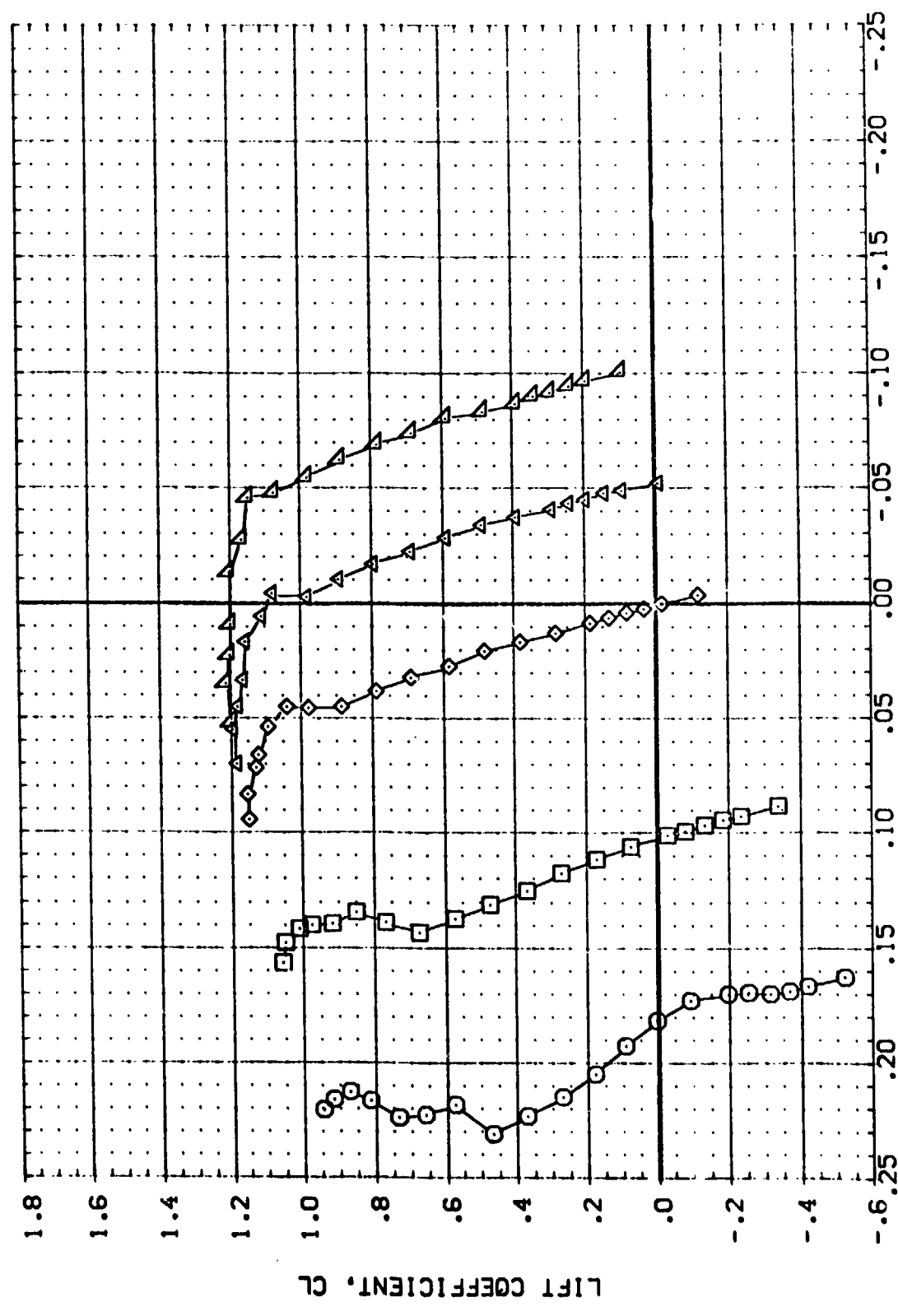
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACX/L	REFERENCE INFORMATION	SCALE
(AD5056)	□	CA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	-20.000	.000	.000	SREF 4.4122	SCALE
(AD5051)	□	CA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	-10.000	.000	.000	LREF 19.2269	SCALE
(AD5046)	□	CA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	.000	.000	.000	BREF 37.9349	SCALE
(AD5049)	□	CA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	5.000	.000	.000	XMRP 43.9374	SCALE
(AD5054)	□	CA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	10.000	.000	.000	YMRP 16.2000	SCALE
							ZMRP 16.2000	SCALE
							SCALE 16.2000	SCALE



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(M)MACH = 0.20

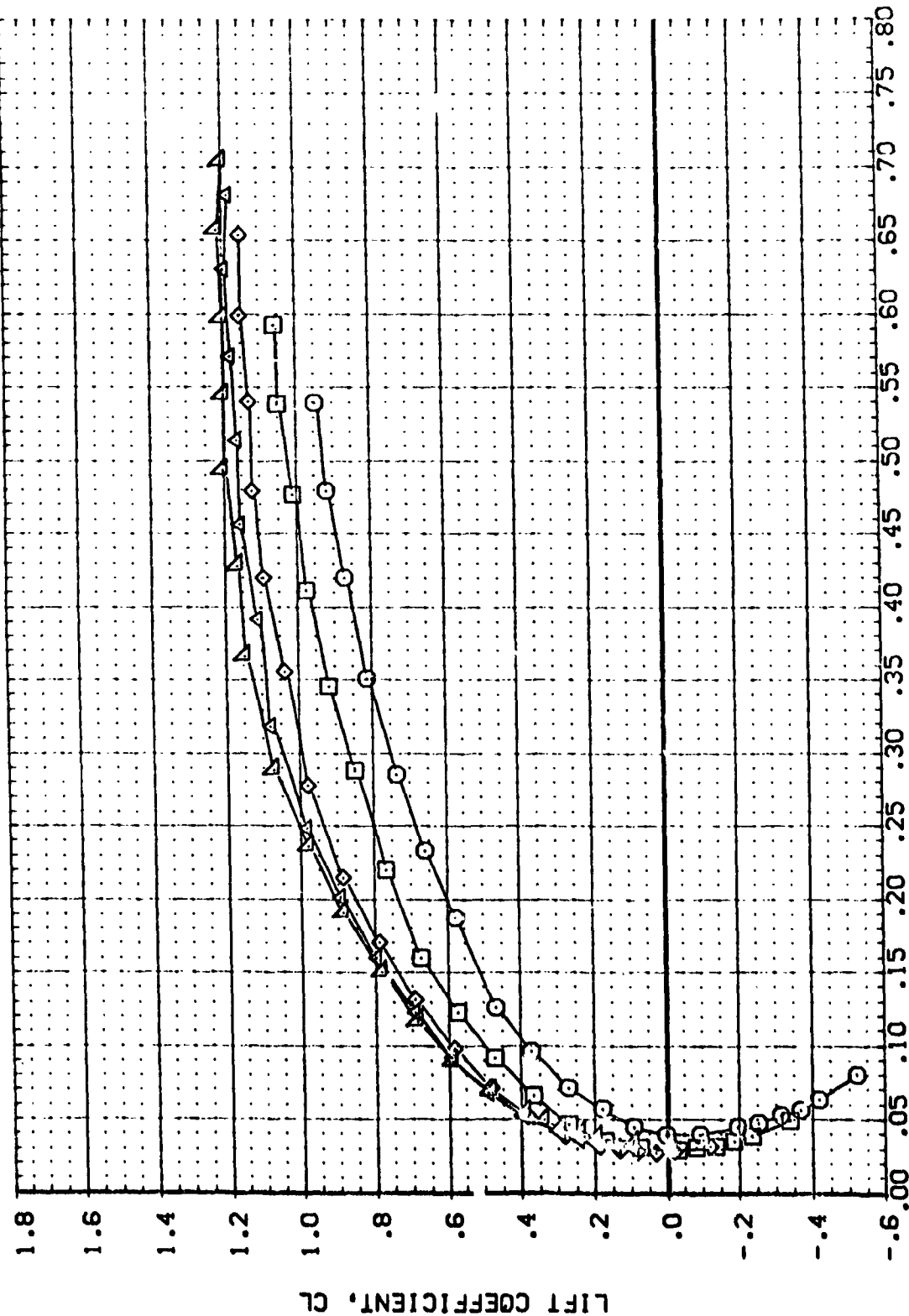
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(ADS056)	CA71A B16CS D7 F1J17W87 E1B3R3X10	.000	-20.000	.000	.000	SREF 4.4122 SQ.FT.
(ADS051)	CA71A B16CS D7 F1J17W87 E1B3R3X10	.000	-10.000	.000	.000	LREF 19.2299 INCHES
(ADS046)	CA71A B16CS D7 F1J17W87 E1B3R3X10	.000	.000	.000	.000	BREF 37.9349 INCHES
(ADS049)	CA71A B16CS D7 F1J17W87 E1B3R3X10	.000	5.000	.000	.000	XREF 43.5974 INCHES
(ADS054)	CA71A B16CS D7 F1J17W87 E1B3R3X10	.000	10.000	.000	.000	YREF 16.0000 INCHES
						ZREF 16.0000 INCHES
						SCALE .0405



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACX/L	REFERENCE INFORMATION	SC.FT.
(A05056)	0A71A B16CS D7 F1J17V87 E18V3K3X10	.000	-20.000	.000	.000	SREF	4.4122
(A05051)	0A71A B16CS D7 F1J17V87 E18V3K3X10	.000	-10.000	.000	.000	LREF	19.2299
(A05046)	0A71A B16CS D7 F1J17V87 E18V3K3X10	.000	5.000	.000	.000	BREF	37.9349
(A05049)	0A71A B16CS D7 F1J17V87 E18V3K3X10	.000	10.000	.000	.000	XREF	43.5974
(A05054)	0A71A B16CS D7 F1J17V87 E18V3K3X10	.000	10.000	.000	.000	YREF	16.2000
						SCALE	10.000



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS

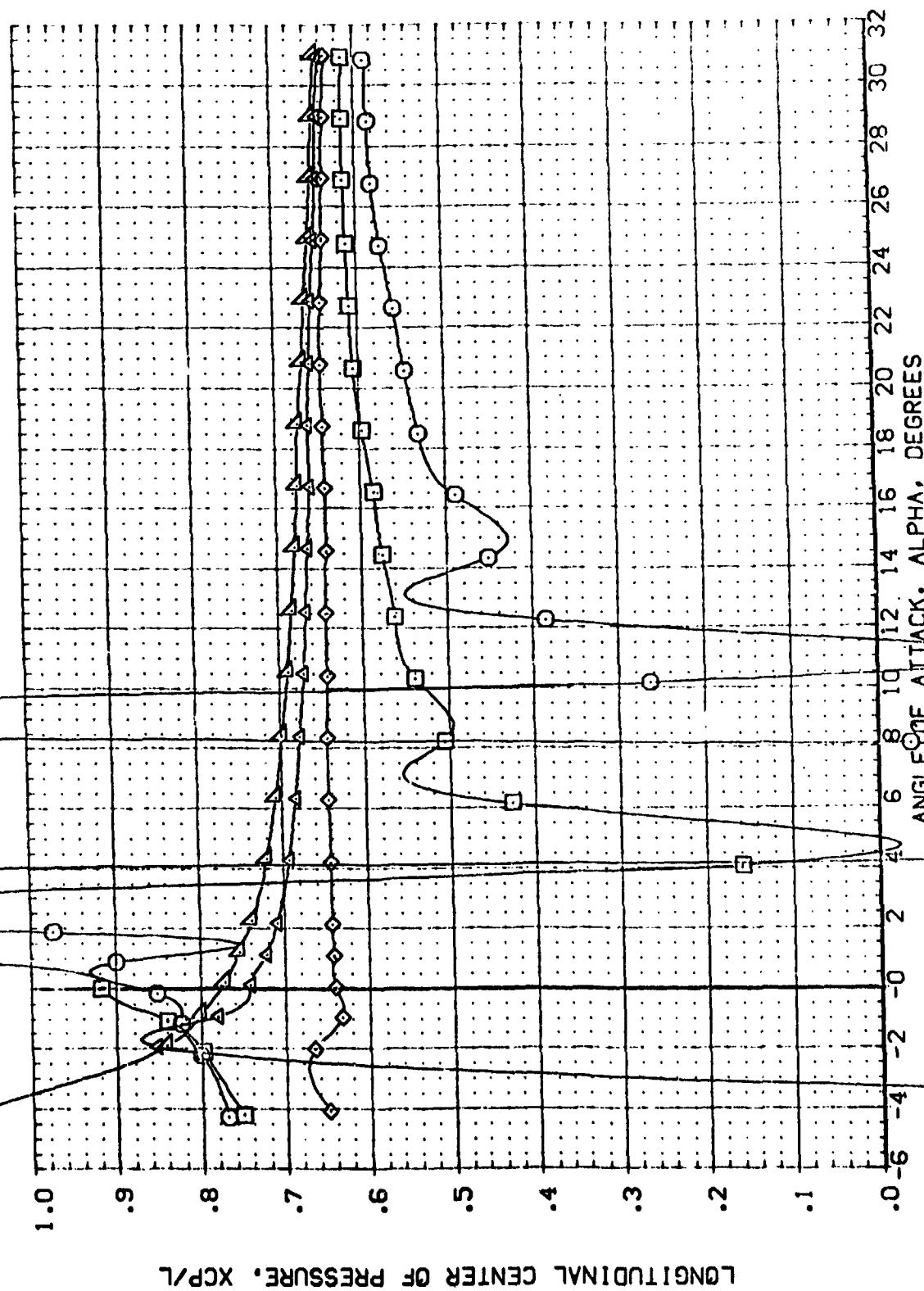
(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A05056)	0A71A	B16C5	07	11J17V37	E18V363X10
(A05057)	0A71A	B16C5	07	11J17V37	E18V363X10
(A05058)	0A71A	B16C5	07	11J17V37	E18V363X10
(A05059)	0A71A	B16C5	07	11J17V37	E18V363X10
(A05060)	0A71A	B16C5	07	11J17V37	E18V363X10

REFERENCE INFORMATION

SREF	4.4122	50 FT.
LREF	19.2299	INCHES
BREF	37.5349	INCHES
XMRP	43.5974	INCHES
YMRP	16.2000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

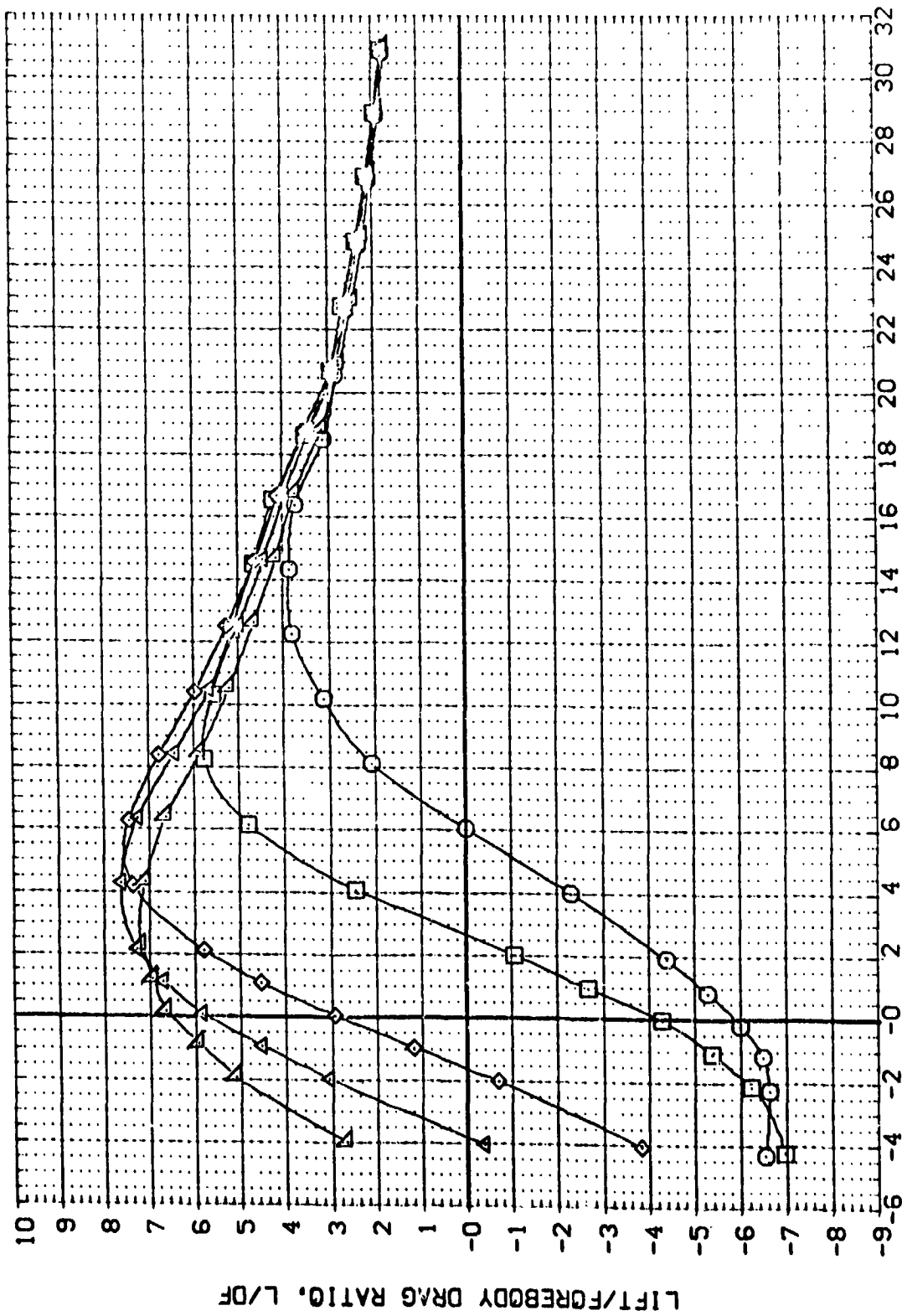


-89B FERRY CONFIGURATION - J17 ABPS

ELEVON EFFECTIVENESS

(A)MACH = 0.20

BETA	ELEVON	AILIRON	NACXVL	REFERENCE INFORMATION
.000	-20.000	.000	.000	SREF 4.4122 SC.F.T.
.000	-10.000	.000	.000	LREF 19.7289 S.F.E.S
.000	.000	.000	.000	BREF 37.9349 S.F.E.S
.000	5.000	.000	.000	XREF 43.0000 S.F.E.S
.000	10.000	.000	.000	YREF .0000 S.F.E.S
.000	10.000	.000	.000	ZREF .162200 S.F.E.S
.000	10.000	.000	.000	SCALE .0400 SCALE



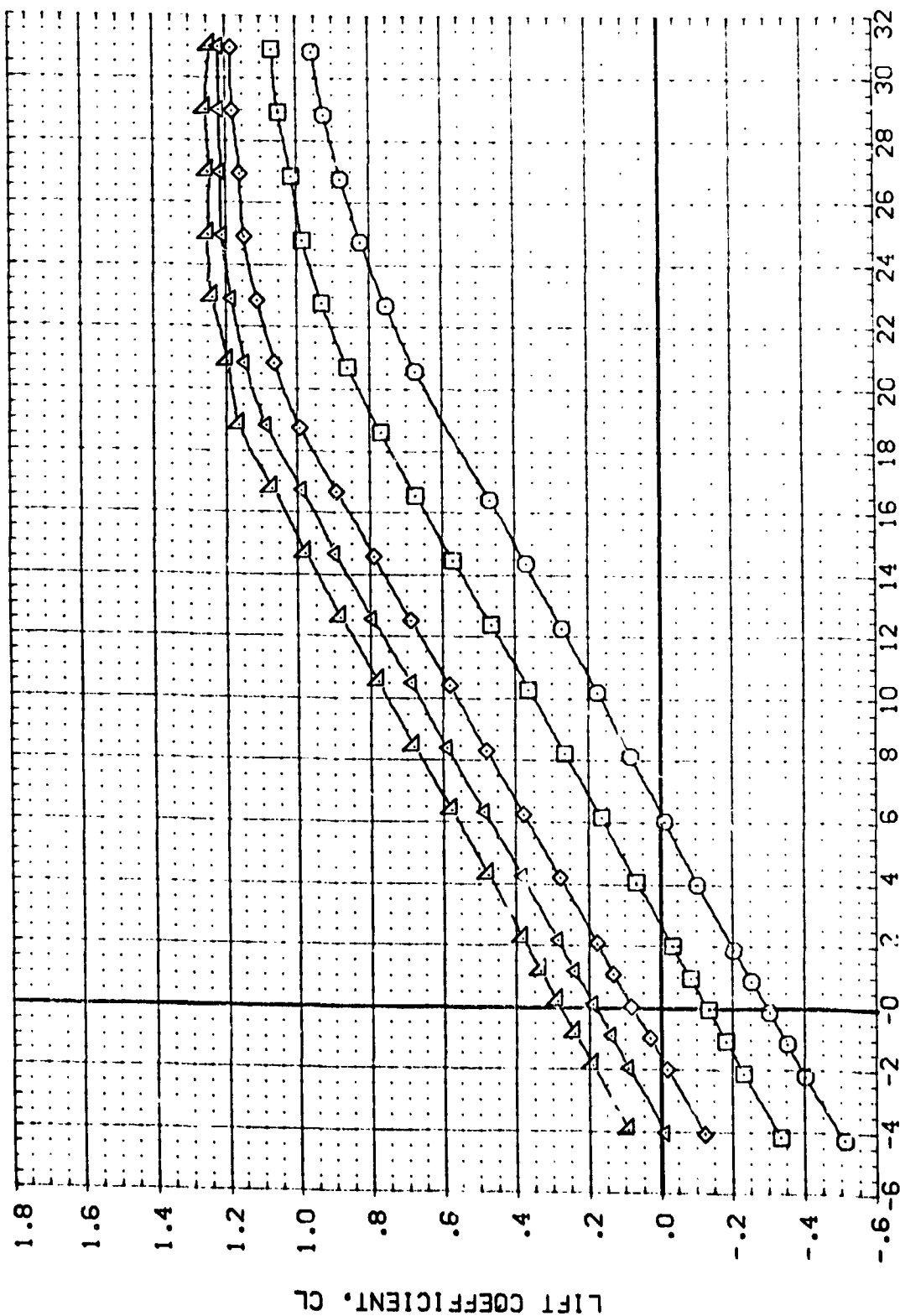
ELEVON EFFECTIVENESS - 89B FERRY CONFIGURATION - J17 ABPS

[A]MACH = 0.20

PAGE 40



DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AIRFOIL	NACA/L	REFERENCE INFORMATION
(AD5037)	□	CA71A	B16CS D7 F117V87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(AD5040)	◇	CA71A	B16CS D7 F117V87 E18V3R3X10	.000	-10.000	.000	.200	LREF 19.2289 INCHES
(AD5043)	△	CA71A	B16CS D7 F117V87 E18V3R3X10	.000	.000	.000	.200	BREF 37.9319 INCHES
(AD5042)	◇	CA71A	B16CS D7 F117V87 E18V3R3X10	.000	5.000	.000	.200	XMRP 43.5974 INCHES
(AD5038)	△	CA71A	B16CS D7 F117V87 E18V3R3X10	.000	10.000	.000	.200	YMRP 16.2000 INCHES
								SCALE 1.05



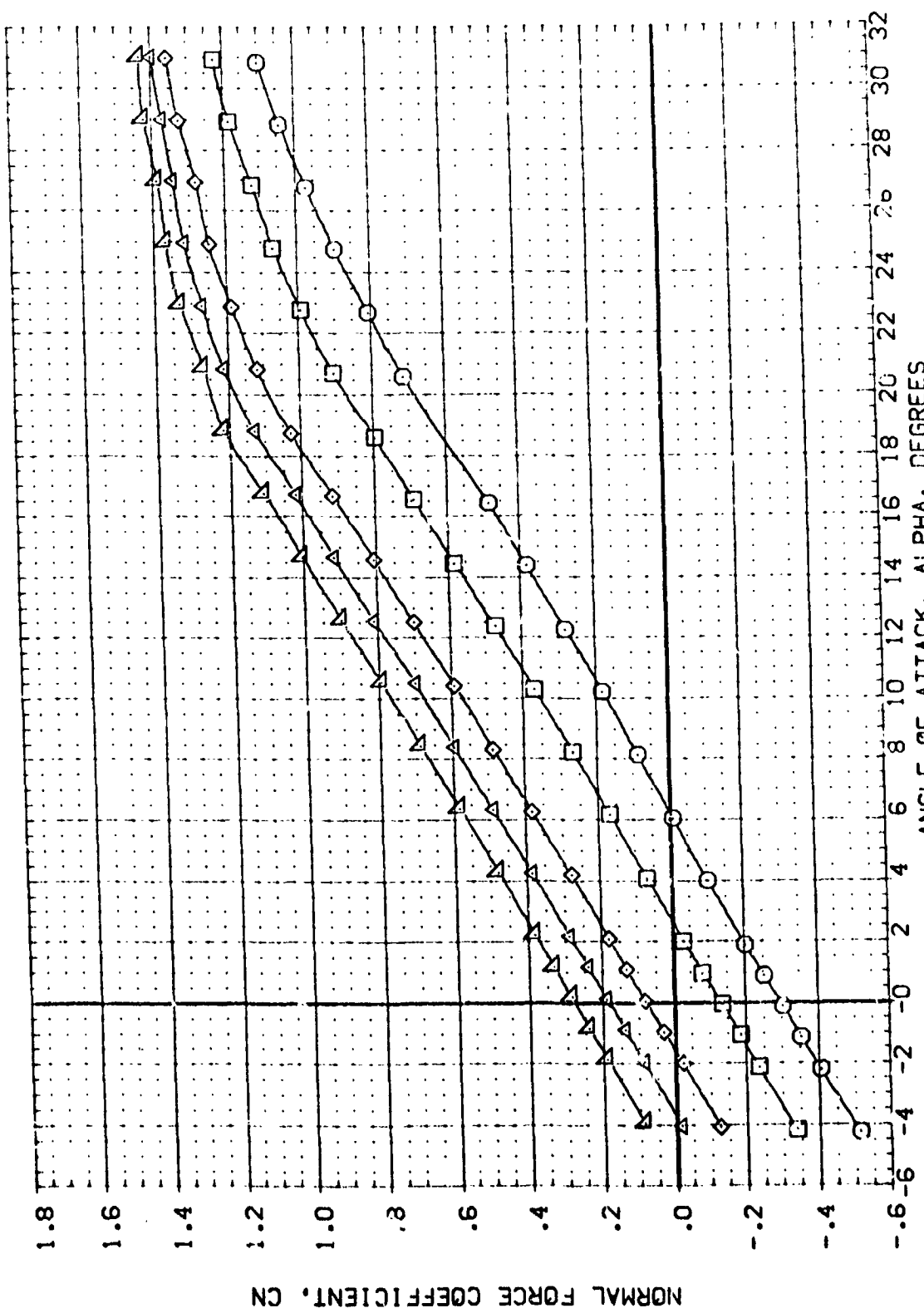
ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(MACH = 0.20

PAGE

41

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACX/L	REFERENCE INFORMATION
(AD5037)	CA71A B16C5 D7 F1J17W87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4 4122
(AD5040)	CA71A B16C5 D7 F1J17W87 E18V3R3X10	.000	-1.000	.000	.200	LREF 19.2293
(AD5043)	CA71A B16C5 D7 F1J17W87 E18V3R3X10	.000	.000	.000	.200	BREF 37.9348
(AD5042)	CA71A B16C5 D7 F1J17W87 E18V3R3X10	.000	5.000	.000	.200	XMRP 43.5814
(AD5038)	CA71A B16C5 D7 F1J17W87 E18V3R3X10	.000	10.000	.000	.200	ZMRP 19.2293
						SCALE .0203

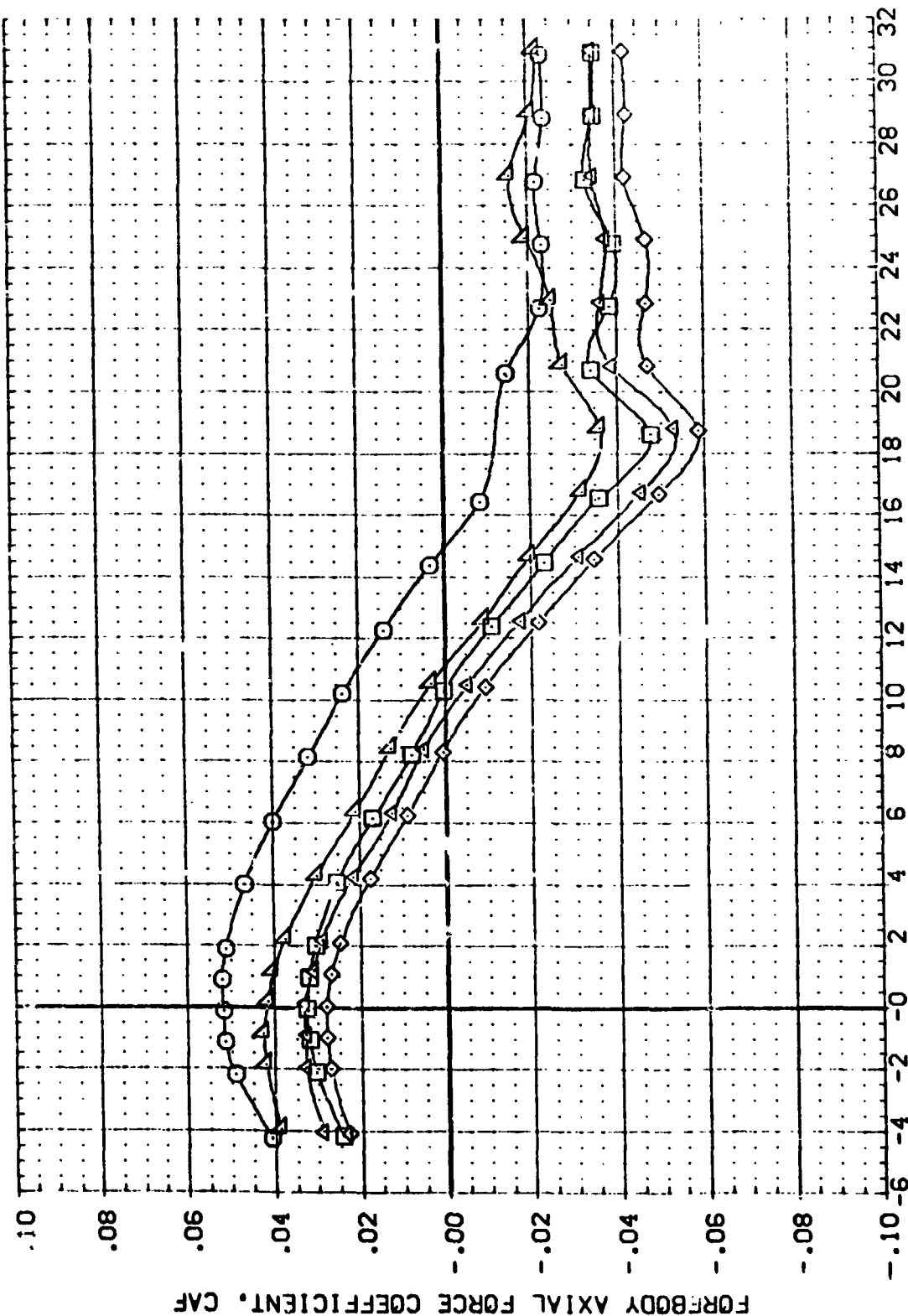


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20



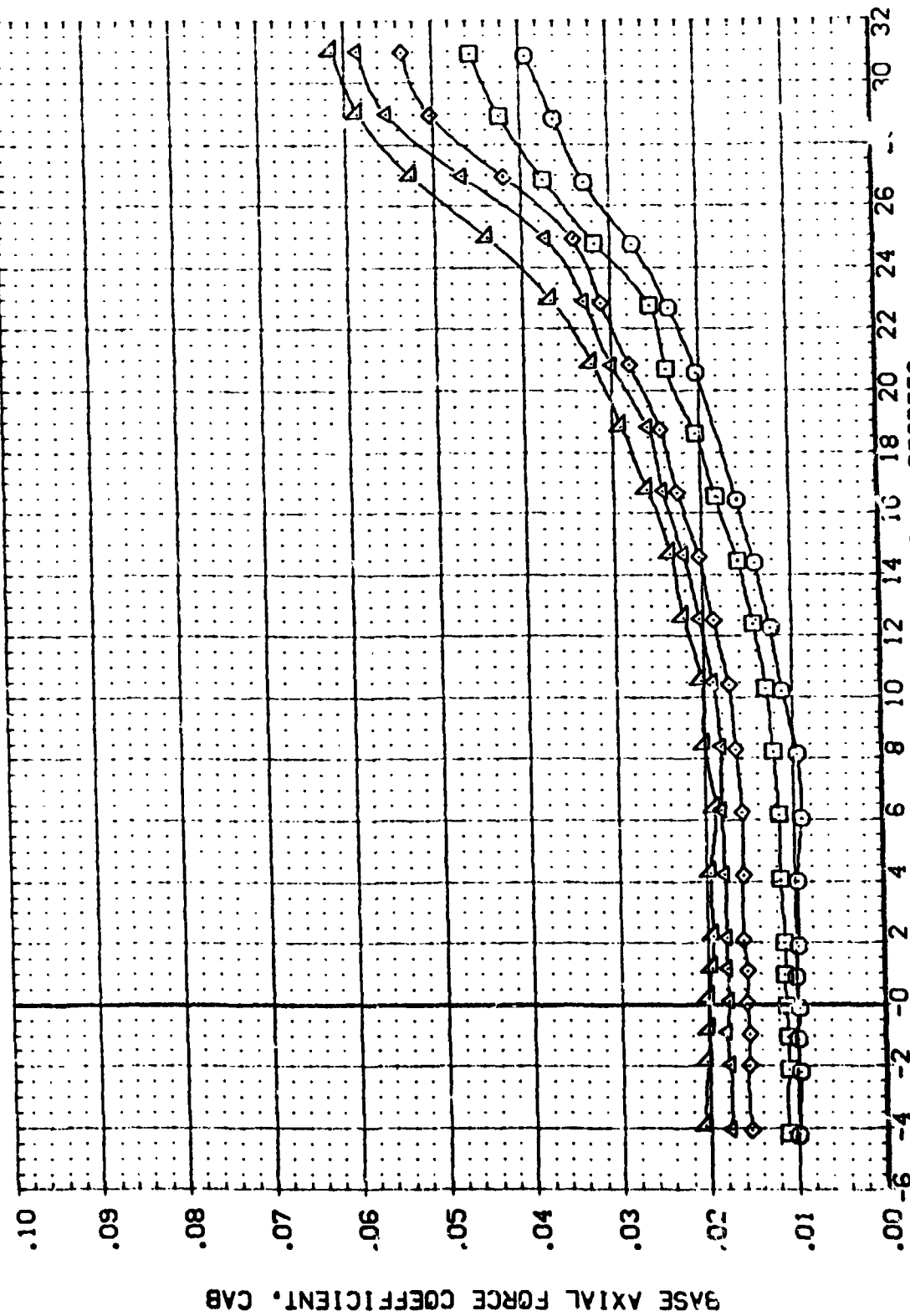
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLIN	NACX/L	REFERENCE INFORMATION	SO. FT.
(ADS037)	○	DA71A B16CS D7 F1J17V87 E18V3R3X10	.000	-20.000	.000	.200	SREF	4.4122
(ADS040)	△	DA71A B16CS D7 F1J17V87 E18V3R3X10	.000	-10.000	.000	.200	LREF	19.2289
(ADS043)	□	DA71A B16CS D7 F1J17V87 E18V3R3X10	.000	.000	.000	.200	BREF	37.9349
(ADS042)	◇	DA71A B16CS D7 F1J17V87 E18V3R3X10	.000	5.000	.000	.200	XREF	43.5974
(ADS038)	○	DA71A B16CS D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	YREF	16.2000
							ZREF	.0405
							SCALE	



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AIRLON	NACX/L	REFERENCE INFORMATION
(A5037)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	-20.000	.000	.200	SRCF 4.4122 SQ.FT.
(A5040)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	-10.000	.000	.200	LREF 19.2259 INCHES
(A5043)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	5.000	.000	.200	BREF 37.9349 INCHES
(A5042)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	XREF 43.9974 INCHES
(A5038)	0A71A B16CS D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	YREF 16.2000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

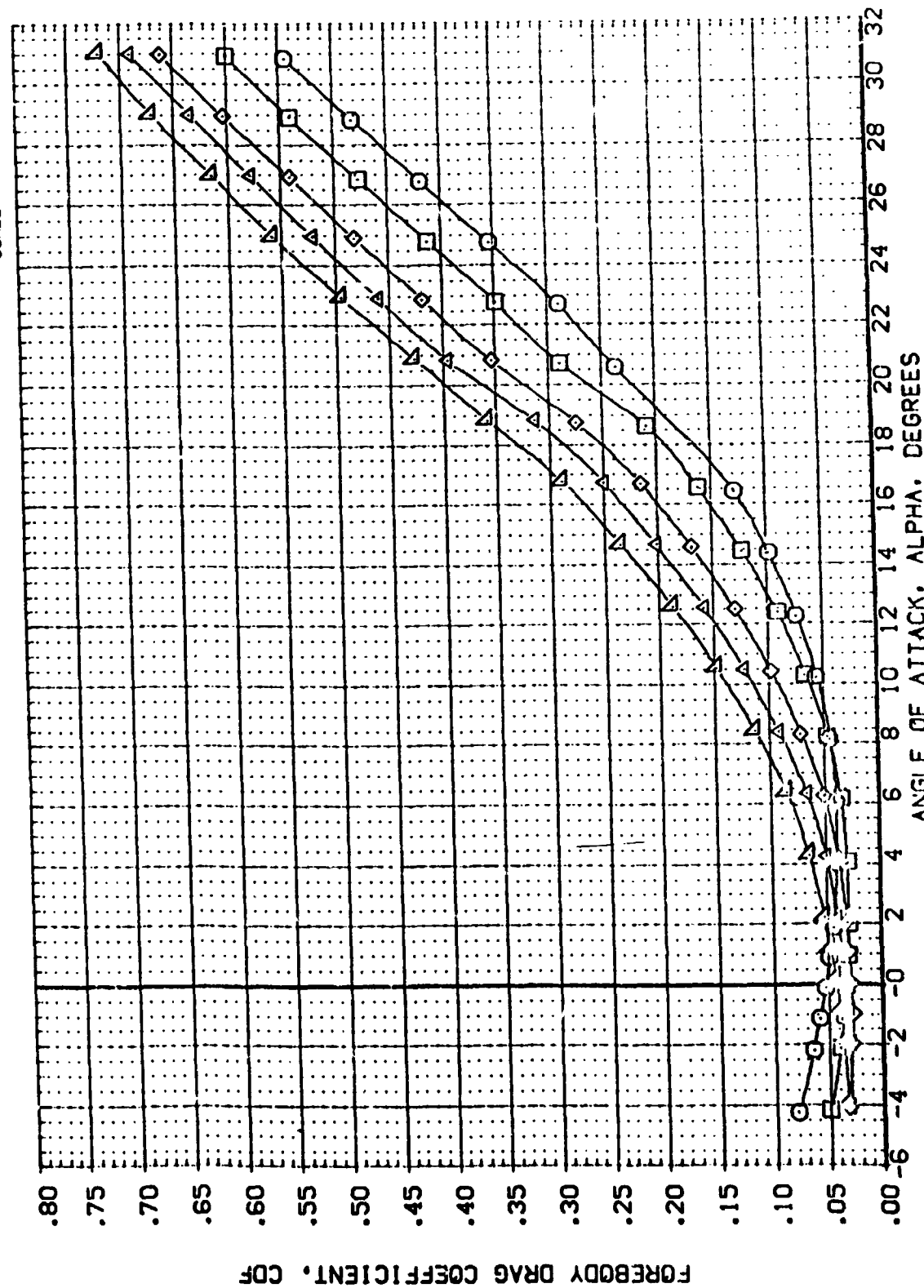


ELEVON EFFECTIVENESS -895 FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20



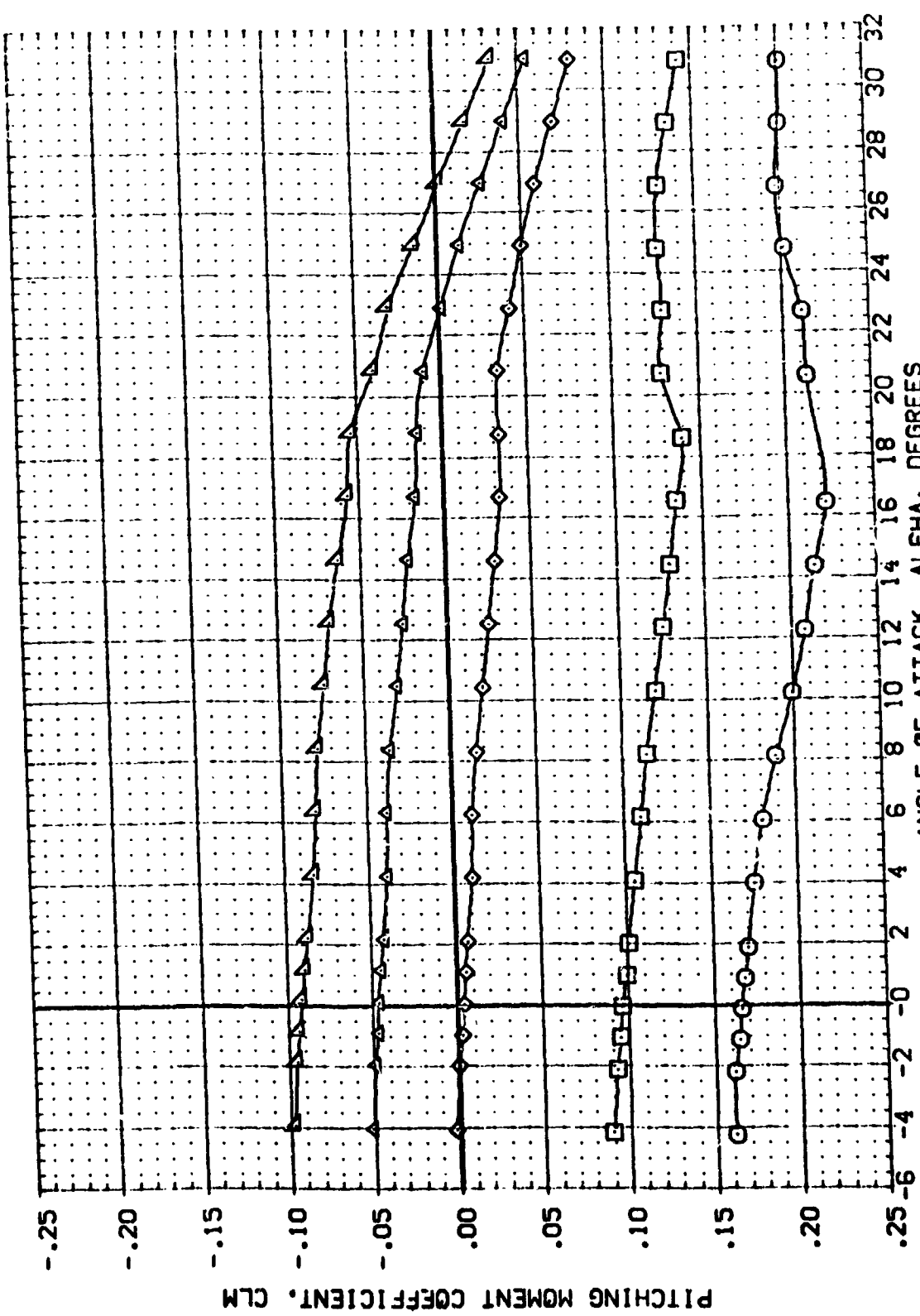
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACA/L	REFERENCE INFORMATION
(A05037)	CA71A B16C5 D7 F1J17V87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(A05040)	CA71A B16C5 D7 F1J17V87 E18V3R3X10	.000	-10.000	.000	.200	LREF 19.2299 INCHES
(A05043)	CA71A B16C5 D7 F1J17V87 E18V3R3X10	.000	5.000	.000	.200	BREF 37.9349 INCHES
(A05042)	CA71A B16C5 D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	XMRP 43.9974 INCHES
(A05038)	CA71A B16C5 D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	ZMRP 16.2000 INCHES
						SCALE .0405



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(AUS037)	DA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	-20.000	.000	.200	4.4122
(AUS040)	DA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	-10.000	.000	.200	19.2289
(AUS043)	DA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	.000	.000	.200	37.9349
(AUS042)	DA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	5.000	.000	.200	43.5974
(AUS038)	DA71A B16CS D7 FIJ17V87 E18V3R3X10	.000	10.000	.000	.200	16.2000
						SCALE

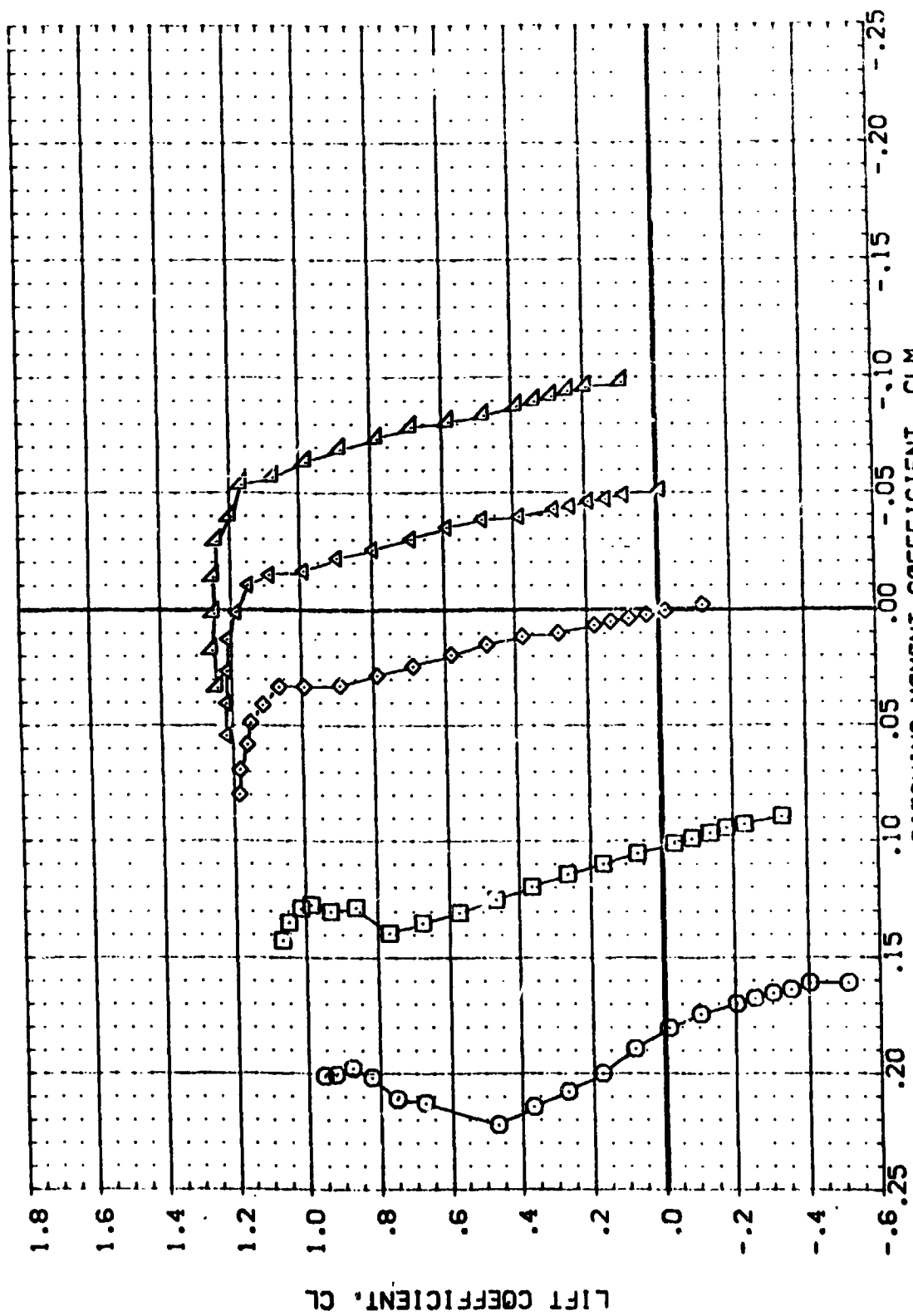


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(AUS037)	QA71A B16CS D7 F1J17V87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(AUS040)	QA71A B16CS D7 F1J17V87 E18V3R3X10	.000	-10.000	.000	.200	LREF 19.2299 INCHES
(AUS043)	QA71A B16CS D7 F1J17V87 E18V3R3X10	.000	5.000	.000	.200	BREF 37.9349 INCHES
(AUS042)	QA71A B16CS D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	XVRP 43.5974 INCHES
(AUS036)	QA71A B16CS D7 F1J17V87 E18V3R3X10	.000	10.000	.000	.200	YVRP 16.2000 INCHES
						ZVRP .0405 SCALE

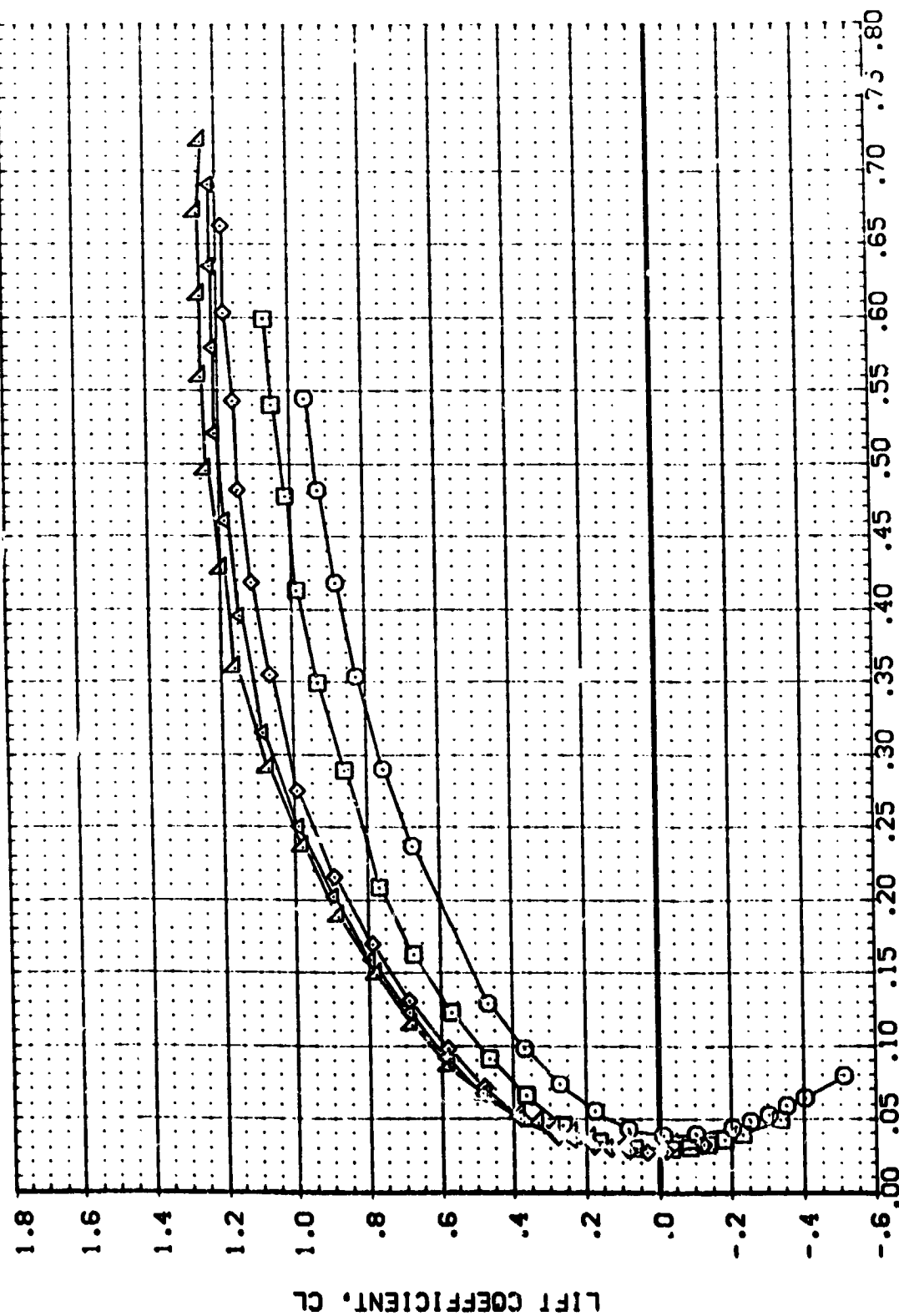


ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AUS037) 0471A B16C3 D7 FIJ17V87 E18V3R3X10
 (AUS043) 0471A B16C3 D7 FIJ17V87 E18V3R3X10
 (AUS043) 0471A B16C3 D7 FIJ17V87 E18V3R3X10
 (AUS043) 0471A B16C3 D7 FIJ17V87 E18V3R3X10
 (AUS038) 0471A B16C3 D7 FIJ17V87 E18V3R3X10

BETA ELEVON AILRON NACX/L REFERENCE INFORMATION
 .000 -20.000 .000 .000 SREF 4.4122 SC.FT.
 .000 -10.000 .000 .000 LREF 19.2289 L.FT.
 .000 .000 .000 .000 BREF 37.9349 B.FT.
 .000 .000 .000 .000 YMRP 43.5874 Y.FT.
 .000 .000 .000 .000 ZMRP .0000 Z.FT.
 .000 .000 .000 .000 SCALE 16.2000 SCALE
 .0405



FOREBODY DRAG COEFFICIENT, CDF

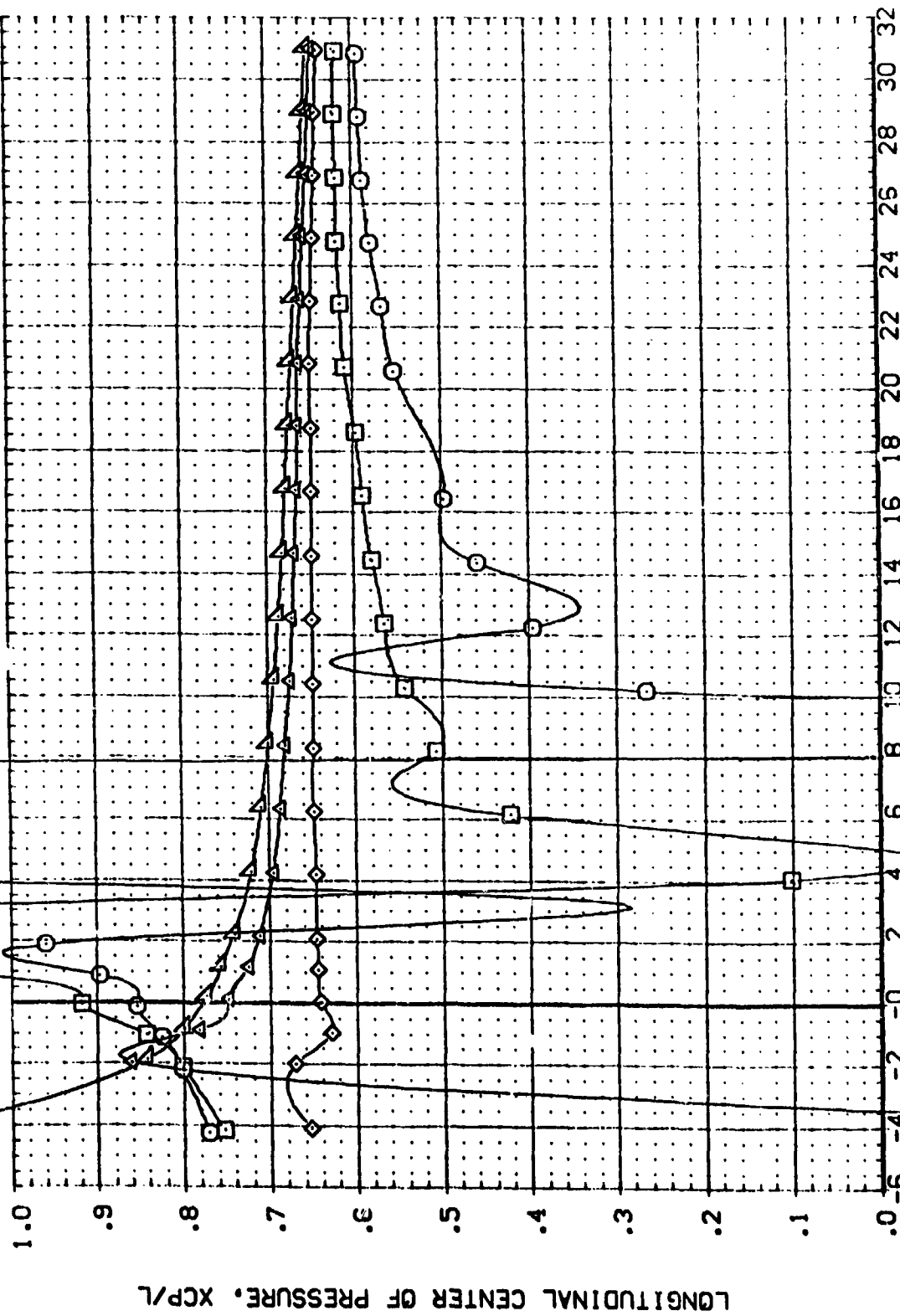
ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A05037) CA71A B16CS D7 F1317A87 E18V3R3X10
 (A05040) CA71A B16CS D7 F1317A87 E18V3R3X10
 (A05042) CA71A B16CS D7 F1317A87 E18V3R3X10
 (A05043) CA71A B16CS D7 F1317A87 E18V3R3X10
 (A05038) CA71A B16CS D7 F1317A87 E18V3R3X10

BETA ELEVON AILRON NACX/L
 .000 -20.000 .000 .200
 .000 -10.000 .000 .200
 .000 .000 .000 .200
 .000 5.000 .000 .200
 .000 10.000 .000 .200

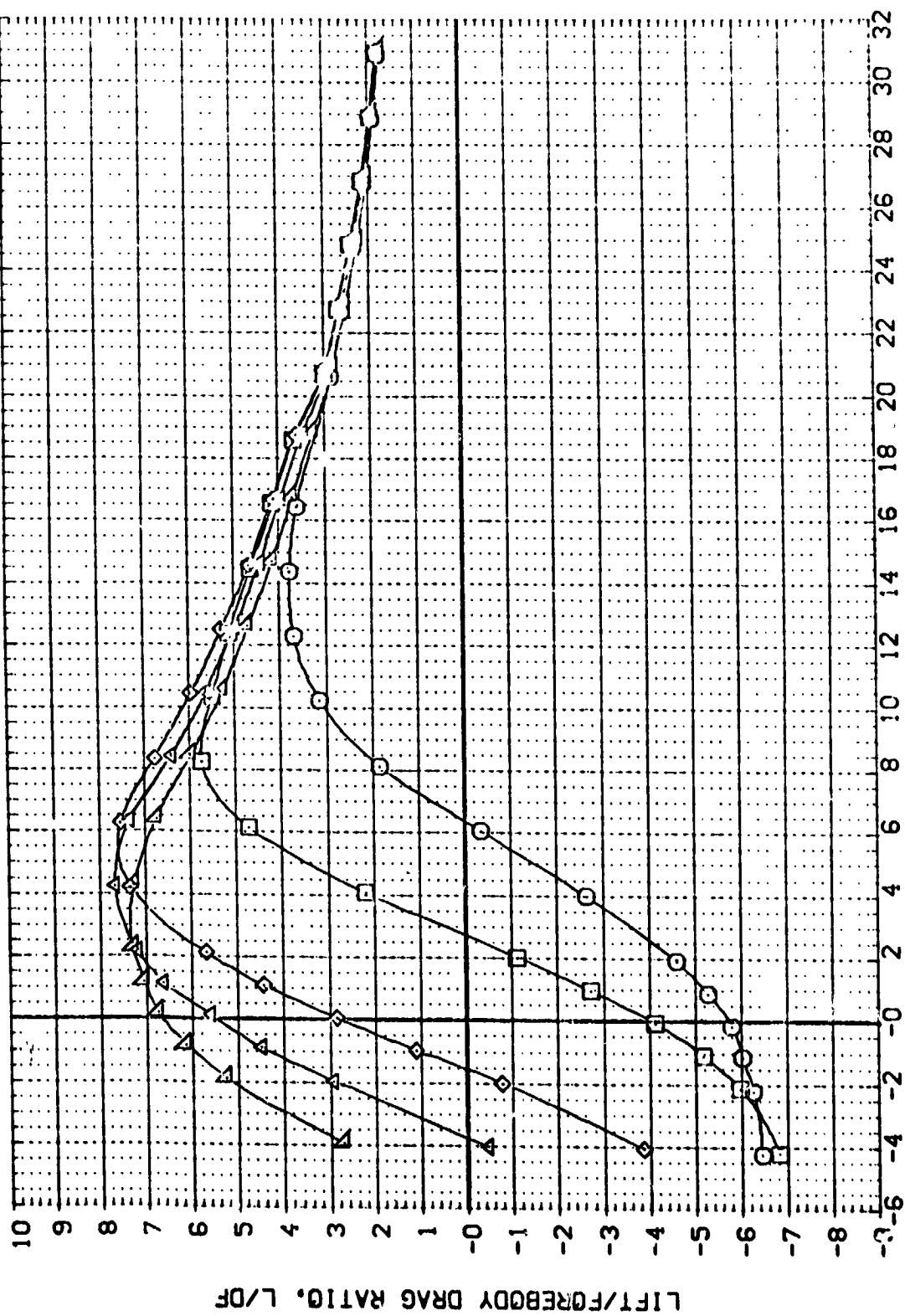
REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF 16.0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405



ELEVON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(AUS037)	CA71A B16C5 D7 F117V87 E18V3R3X10	.000	-20.000	.000	.200	SREF 4.4122 SQ.FT.
(AUS040)	CA71A B16C5 D7 F117V87 E18V3R3X10	.000	-10.000	.000	.200	REF 19.2098 SQ.FT.
(AUS043)	CA71A B16C5 D7 F117V87 E18V3R3X10	.000	5.000	.000	.200	REF 37.9376 SQ.FT.
(AUS042)	CA71A B16C5 D7 F117V87 E18V3R3X10	.000	10.000	.000	.200	REF 43.9874 SQ.FT.
(AUS038)	CA71A B16C5 D7 F117V87 E18V3R3X10	.000	10.000	.000	.200	REF 16.2000 SQ.FT.



ELEVON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(MACH = 0.20

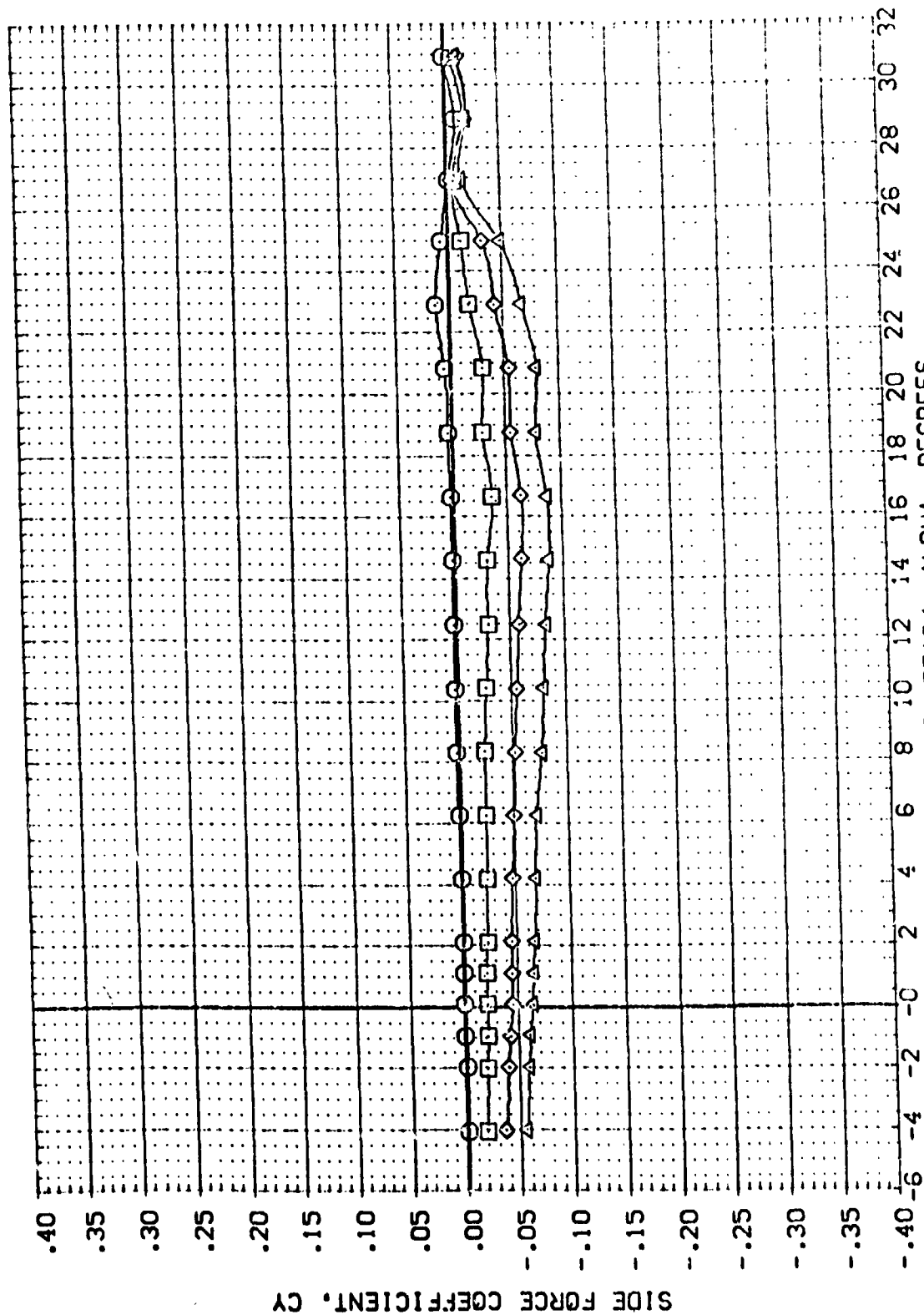
PAGE

50

DATA SET SYMOL CONFIGURATION DESCRIPTION
 (RCS001) CA71A 81605 D7 F1 V87E18V33X9
 (RCS002) CA71A 81605 D7 F1 V87E18V33X9
 (RCS003) CA71A 81605 D7 F1 V87E18V33X9
 (RCS004) CA71A 81605 D7 F1 V87E18V33X9

BETA ELEVON AILRON
 .000 .000 .000
 .000 .000 .000
 .000 .000 .000
 .000 .000 .000

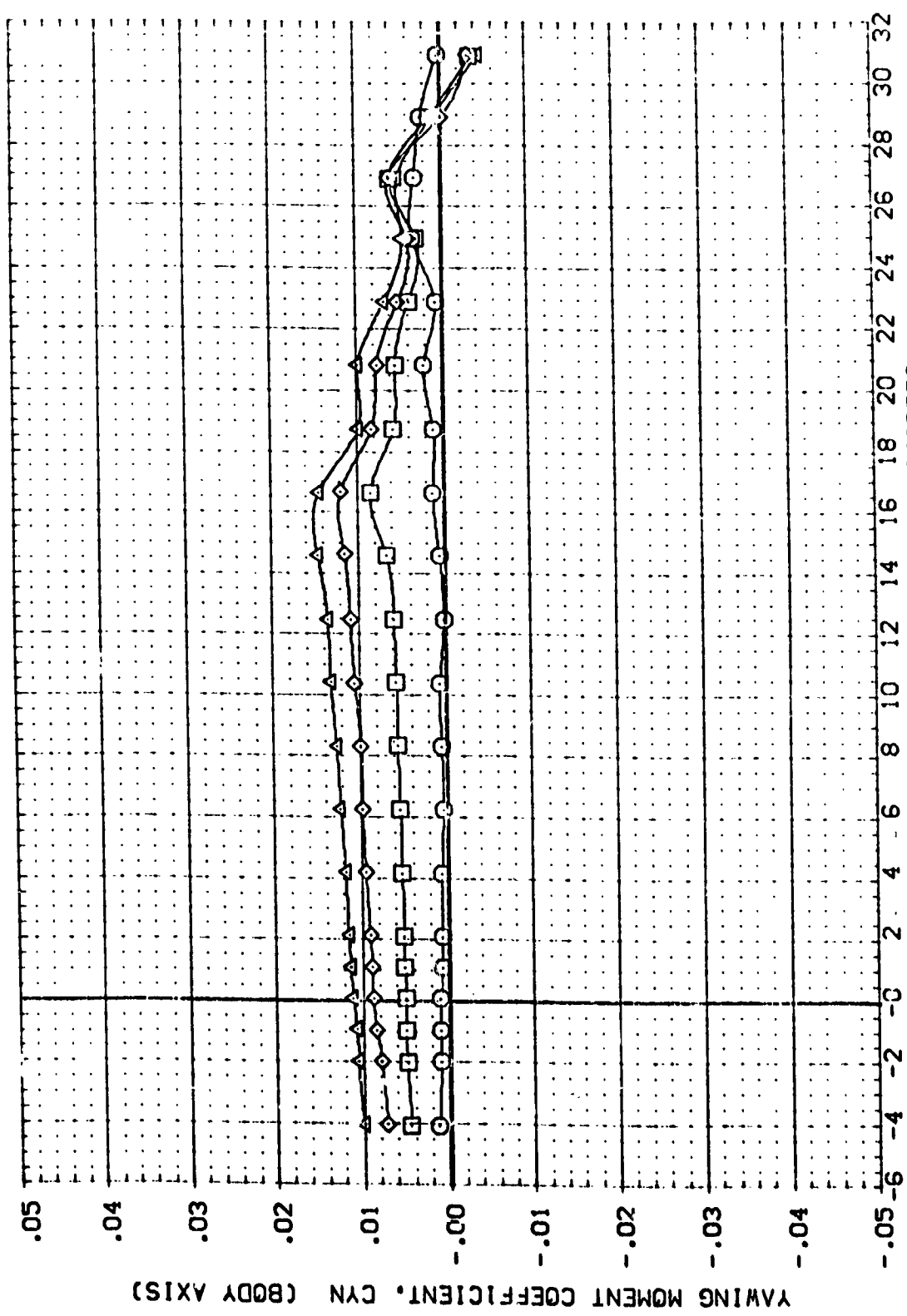
REFERENCE INFORMATION
 SREF 4.4122 53.47
 LREF 19.2258 10.00
 BREF 37.9348 5.00
 XREF 43.8974 10.00
 YREF 16.2000 15.00
 ZREF 16.2000 15.00
 SCALE .0400



AILRON EFFECTIVENESS -893 FERRY CONFIGURATION - ABPS OFF

CAMACH = 0.20

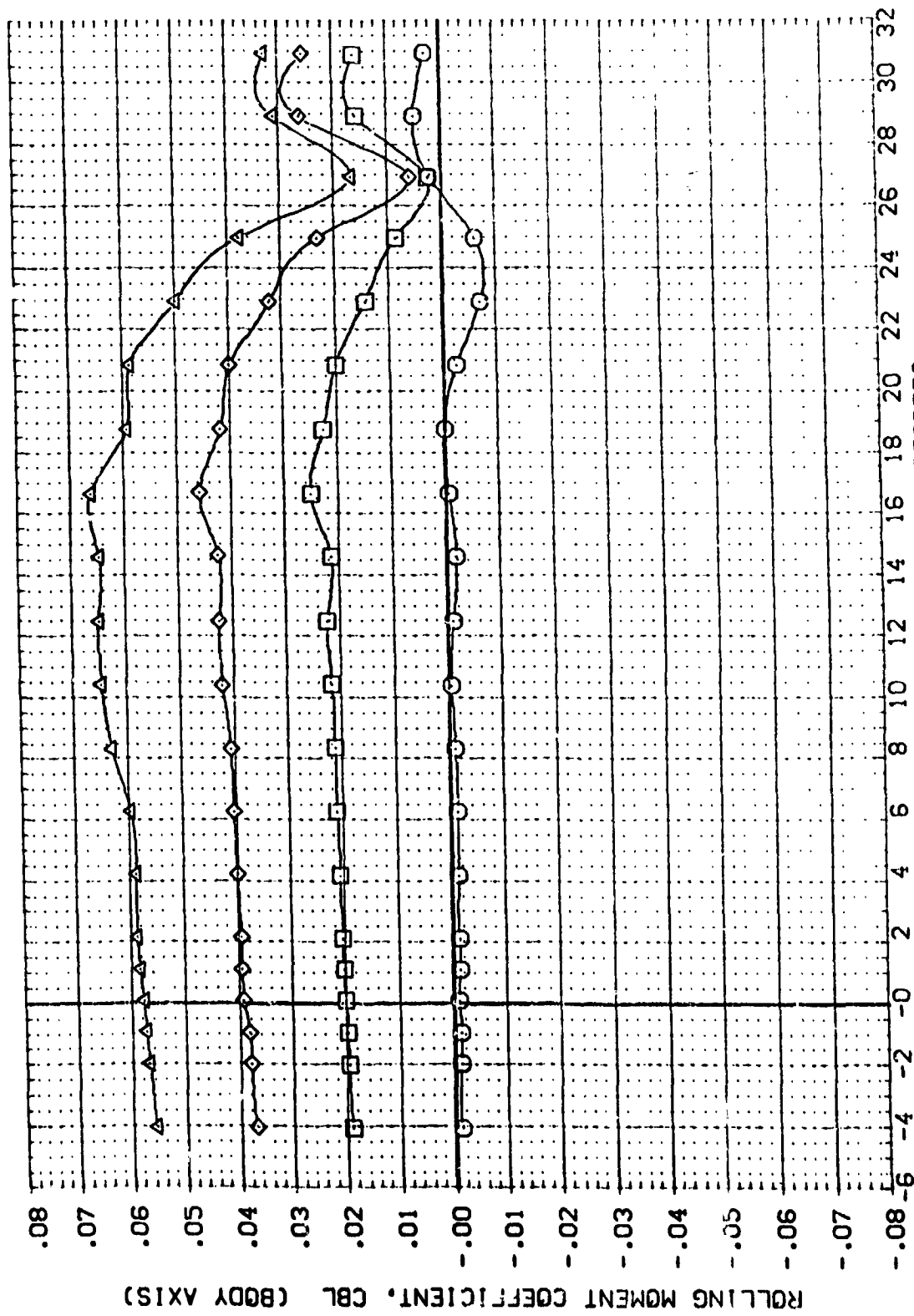
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	REFERENCE INFORMATION
(R05001)	CA71A B16CS D7 F1 V87E18V3R3X9	.000	.000	.000	SREF 4.4122
(R05003)	CA71A B16CS D7 F1 V87E18V3R3X9	.000	.000	.000	URREF 19.2299
(R05007)	CA71A B16CS D7 F1 V87E18V3R3X9	.000	.000	.000	SRREF 37.9349
(R05010)	CA71A B16CS D7 F1 V87E18V3R3X9	.000	.000	.000	VRREF 43.9974
					WREF 0.0000
					ZREF 16.2000
					SCALE 1.0400



AILERON EFFECTIVENESS -898 FERRY CONFIGURATION - A39S OFF

(A3)YACH = 0.20

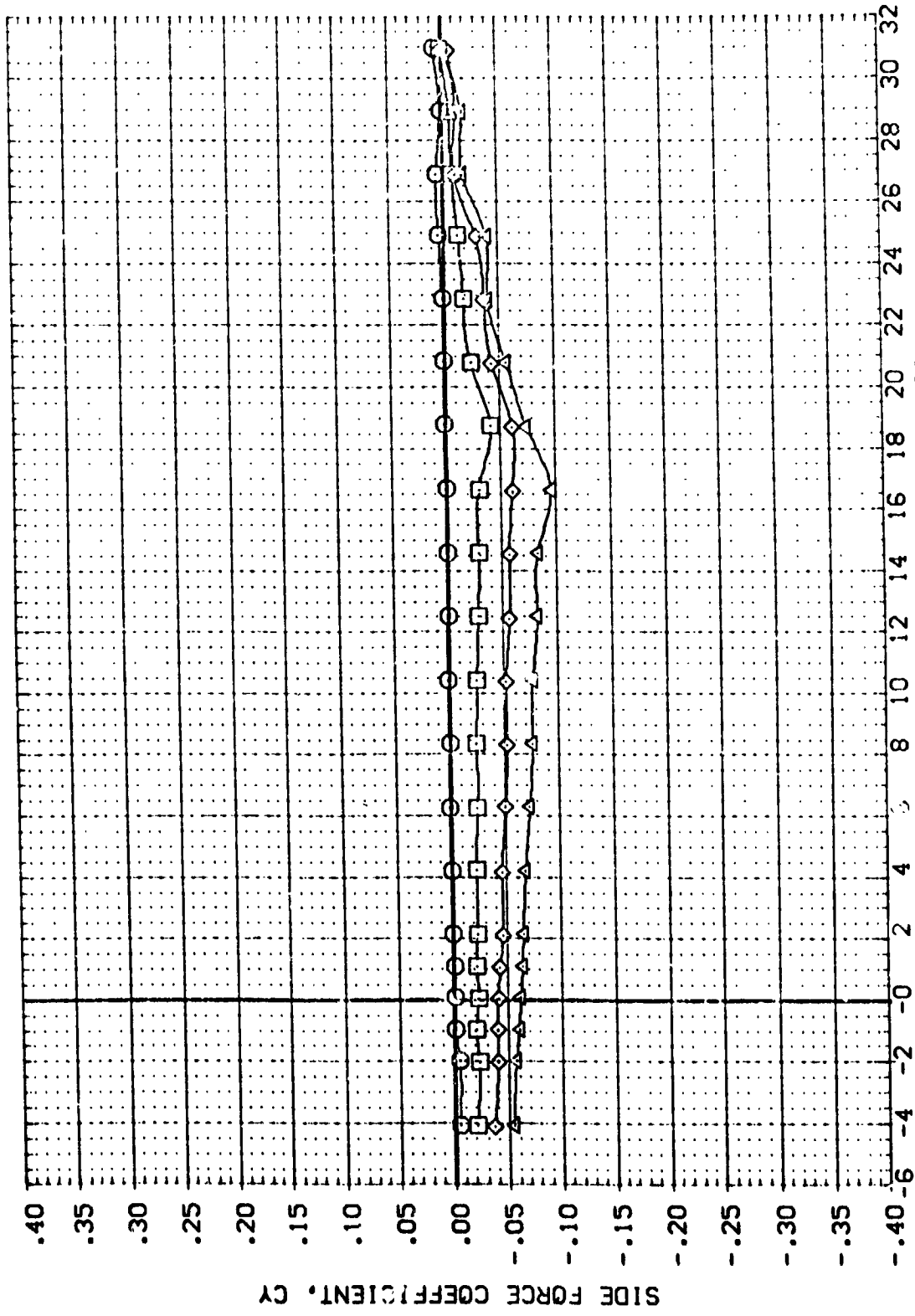
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	REFERENCE INFORMATION
(R05001)	CA7/A B1605 D7 F1 V87E18V333X9	.000	.000	.000	SREF 4.4122 SC.FT.
(R05005)	CA7/A B1605 D7 F1 V87E18V333X9	.000	.000	.000	LREF 19.2299
(R05007)	CA7/A B1605 D7 F1 V87E18V333X9	.000	.000	.000	PREF 37.9349
(R05010)	CA7/A B1605 D7 F1 V87E18V333X9	.000	.000	.000	XMRP 43.1974
					YMRP 0.0000
					ZMRP 0.0000
					SCALE 16.2000
					SCALE 10400



AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - ABPS OFF

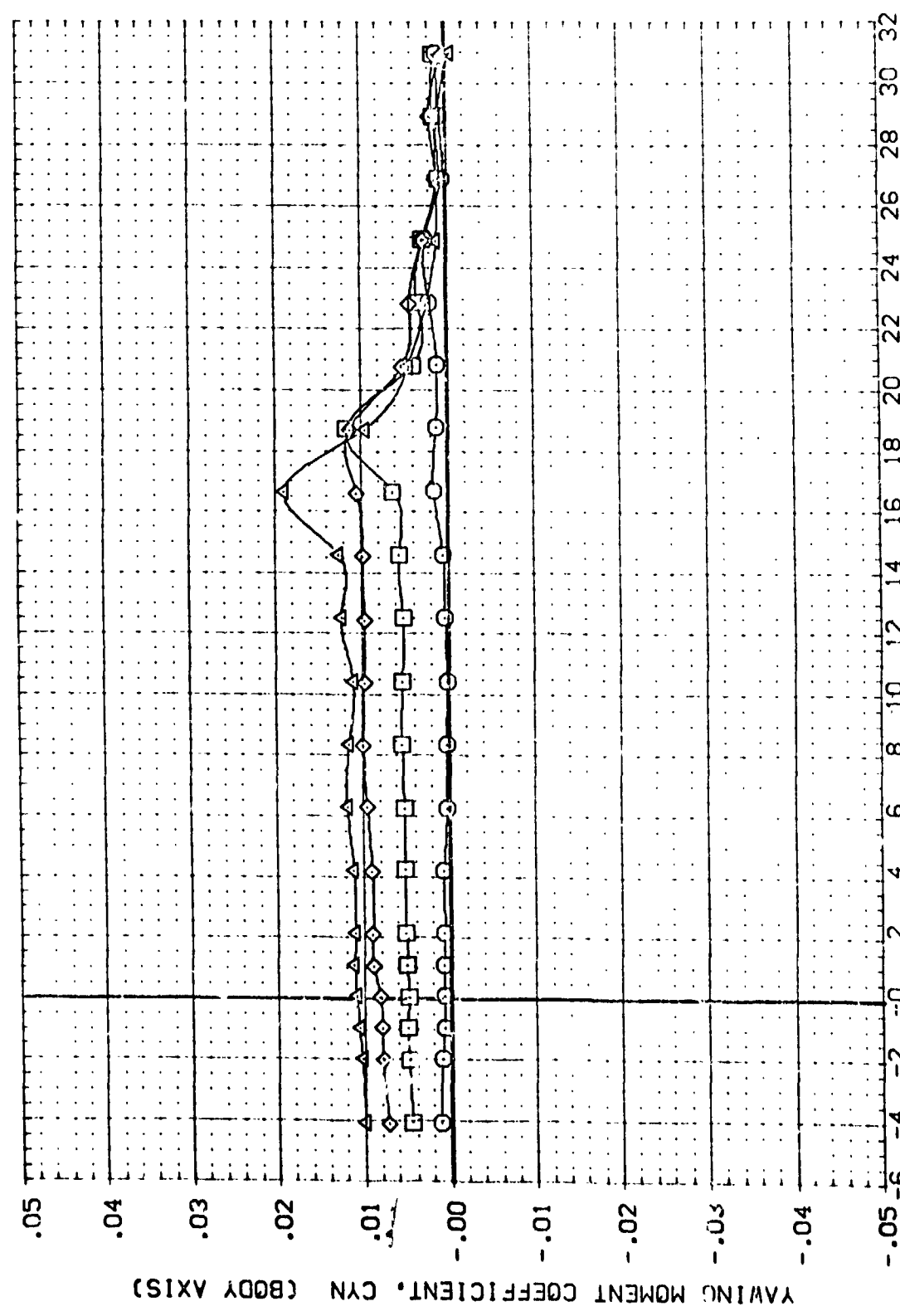
(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(R05022)	CA71A B16C5 D7 F1014V87 E18V3R3X10	.000	.000	.000	.000	SREF 4.4122 SC.F.T. 15
(R05016)	CA71A B16C5 D7 F1014V87 E18V3R3X10	.000	.000	5.000	.000	LREF 19.2239 SC.F.T. 15
(R05014)	CA71A B16C5 D7 F1014V87 E18V3R3X10	.000	.000	10.000	.000	BREF 37.9349 SC.F.T. 15
(R05011)	CA71A B16C5 D7 F1014V87 E18V3R3X10	.000	.000	15.000	.000	XREF 43.5874 SC.F.T. 15
						YREF 16.0000 SC.F.T. 15
						ZREF 16.0000 SC.F.T. 15
						SCALE 1.0408

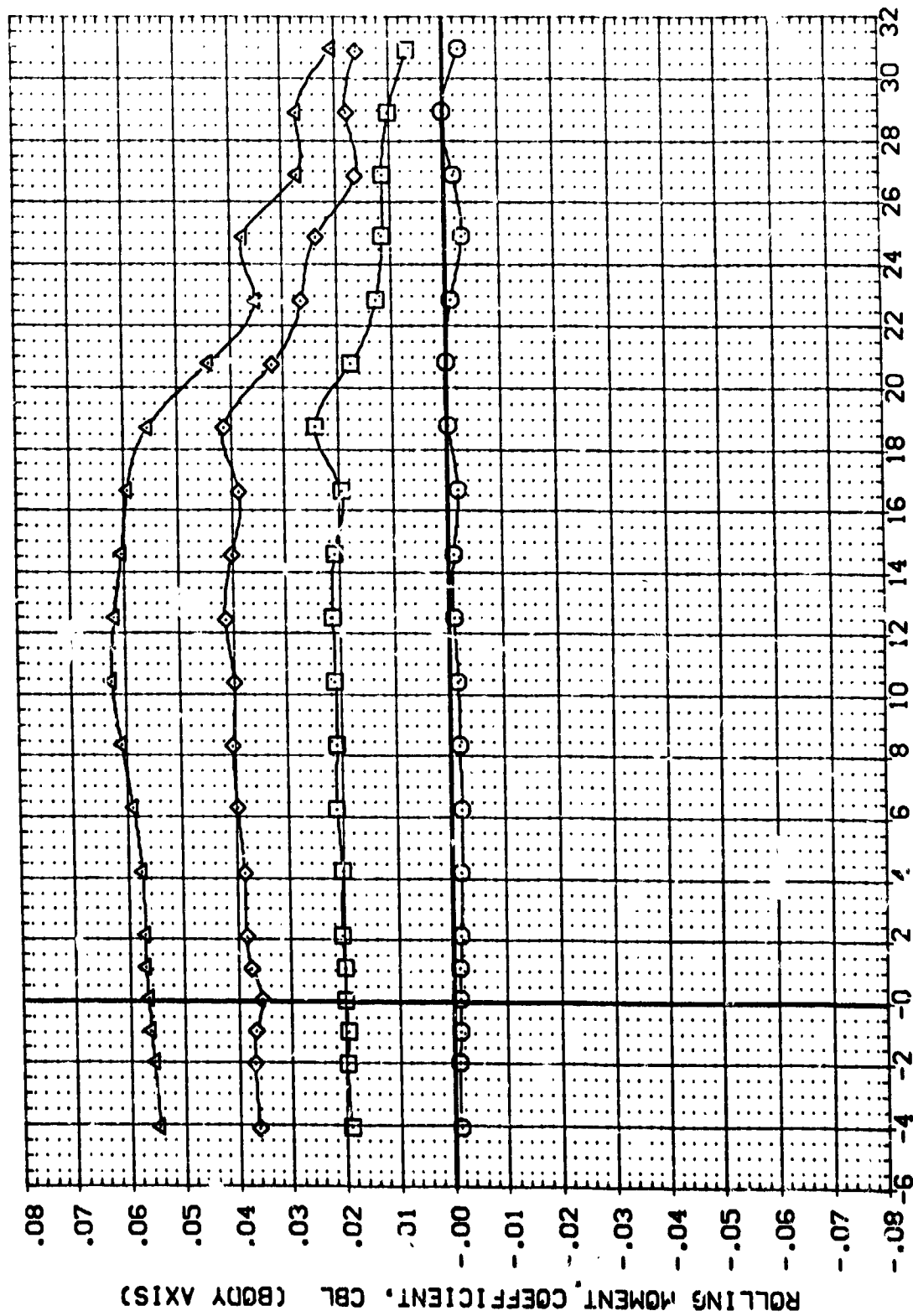


AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS
 (A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AILRON	NACX/L	REFERENCE INFORMATION
(R05022)	CA71A	B16C5 D7 F1014V87 E18V3R3X10	.000	.000	.000	.000	SREF 4.4122 SQ.FT.
(R05016)	CA71A	B16C5 D7 F1014V87 E18V3R3X10	.000	.000	5.000	.000	LREF 19.2289 INCHES
(R05014)	CA71A	B16C5 D7 F1014V87 E18V3R3X10	.000	.000	10.000	.000	BREF 37.5349 INCHES
(R05011)	CA71A	B16C5 D7 F1014V87 E18V3R3X10	.000	.000	15.000	.000	VMRP 43.5974 INCHES
							ZMRP .0000 INCHES
							SCALE 15.2000 INCHES
							SCALE .0405



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILRON	NACA/L	REFERENCE INFORMATION
(RDS022)	0A71A B16CS D7 F1J14V87 E18V3R3X10	.000	.000	.000	.000	SREF 4.4122 SQ.FT.
(RDS016)	0A71A B16CS D7 F1J14V87 E18V3R3X10	.000	.000	5.000	.000	LREF 19.2299 INCHES
(RDS014)	0A71A B16CS D7 F1J14V87 E18V3R3X10	.000	.000	10.000	.000	BREF 37.9349 INCHES
(RDS011)	0A71A B16CS D7 F1J14V87 E18V3R3X10	.000	.000	15.000	.000	YMRP 43.5874 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

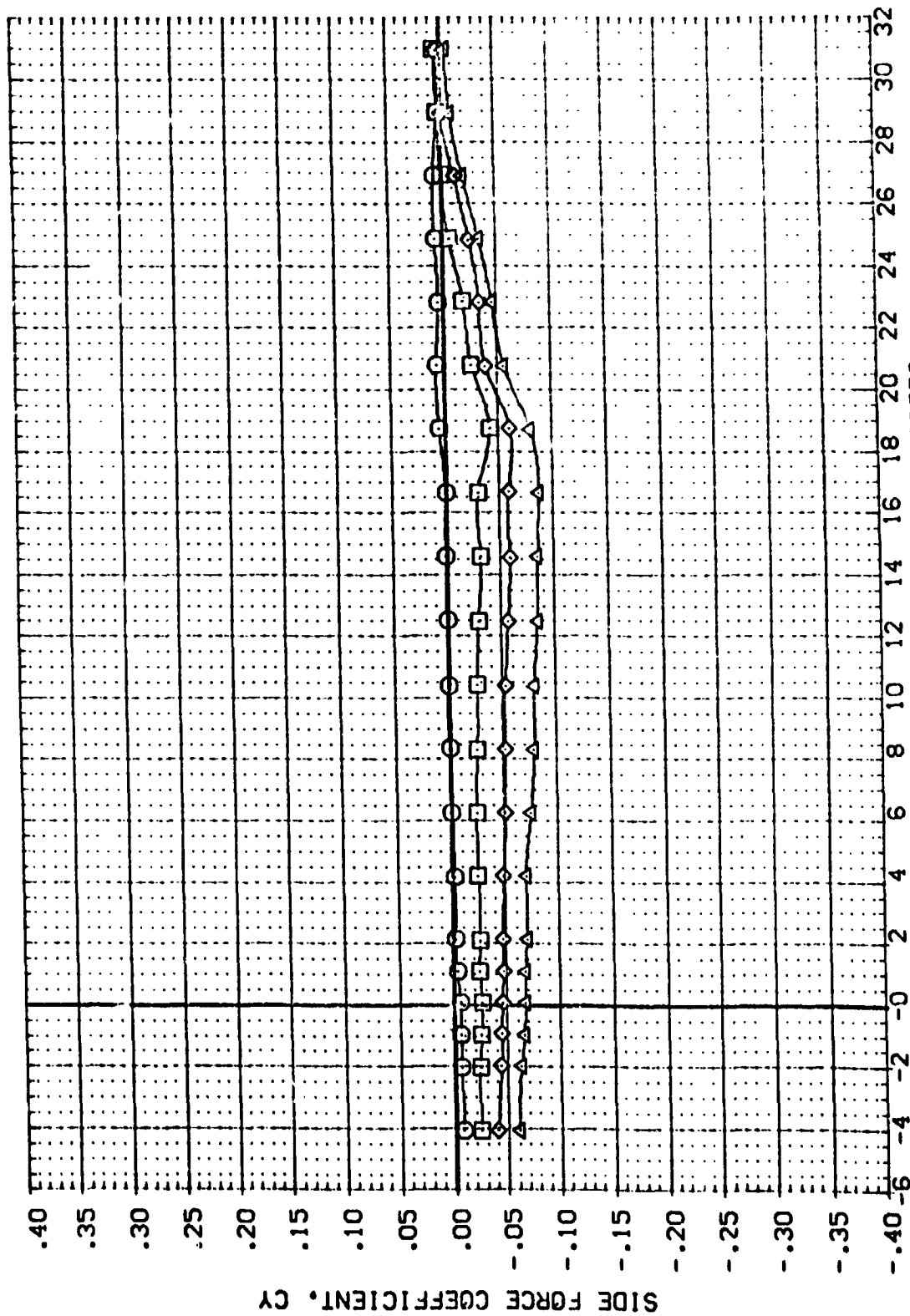


AILERON EFFECTIVENESS -098 FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20



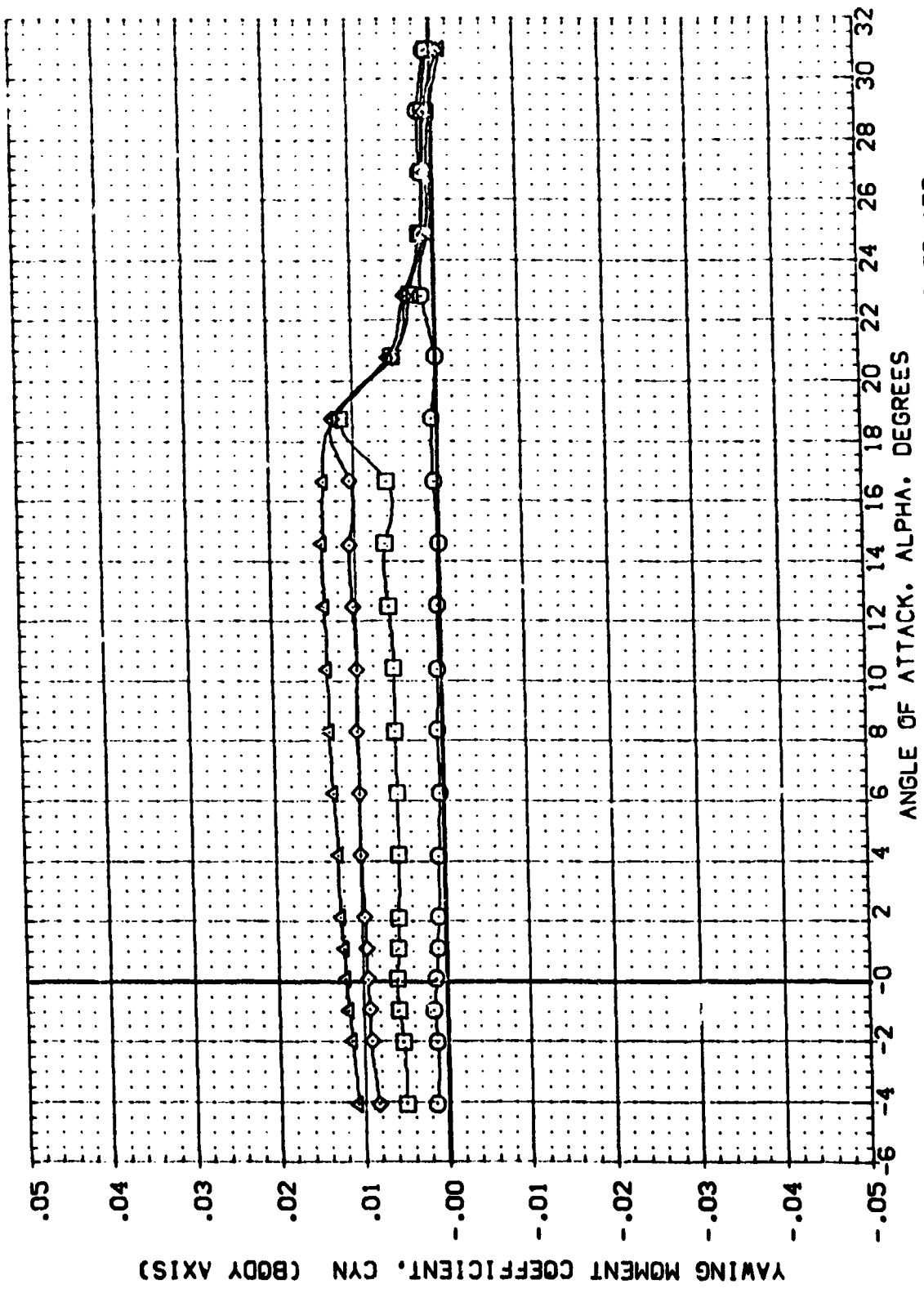
DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
RS023	□	CA71A	B16CS D7 F1J14V87 E18V3R3X10	.000	.000	.000	.200	SREF 4.4122 SQ. FT.
RS027	□	CA71A	B16CS D7 F1J14V87 E18V3R3X10	.000	.000	5.000	.200	LREF 19.2299 INCHES
RS030	□	CA71A	B16CS D7 F1J14V87 E18V3R3X10	.000	.000	10.000	.200	BREF 37.9349 INCHES
RS033	□	CA71A	B16CS D7 F1J14V87 E18V3R3X10	.000	.000	15.000	.200	XREF 43.5974 INCHES
								YREF 16.2000 INCHES
								ZREF .0405 INCHES
								SCALE



AILERON EFFECTIVENESS -898 FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACA/L	REFERENCE INFORMATION
(R05023)	DA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	SREF 4.4122
(R05027)	DA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	LREF 19.2299
(R05030)	DA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	BREF 37.9349
(R05033)	DA71A B16C5 D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	XREF 43.9974
						YREF .0000
						ZREF .0000
						SCALE 5.0000
						SCALE 1.0000

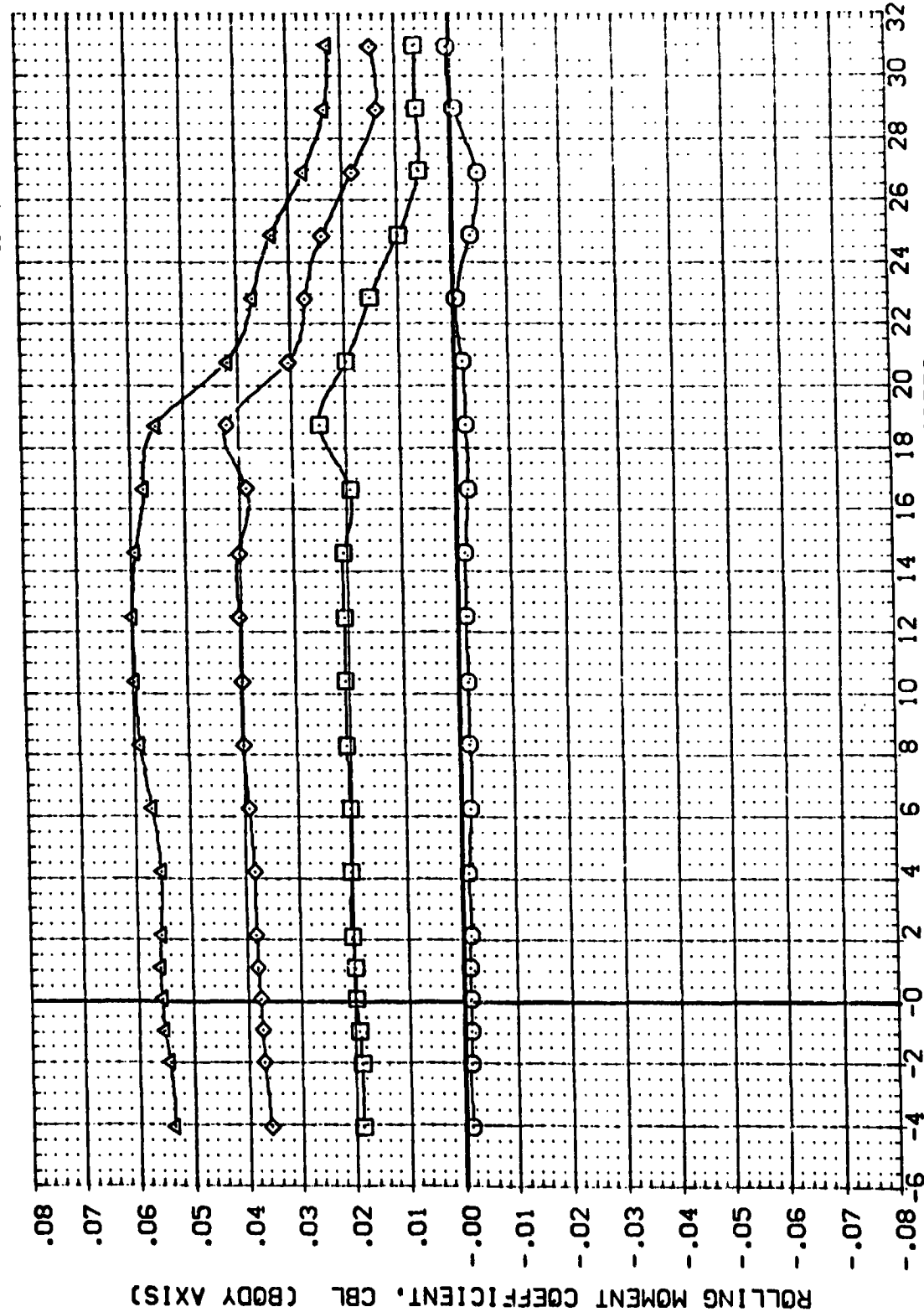


AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20



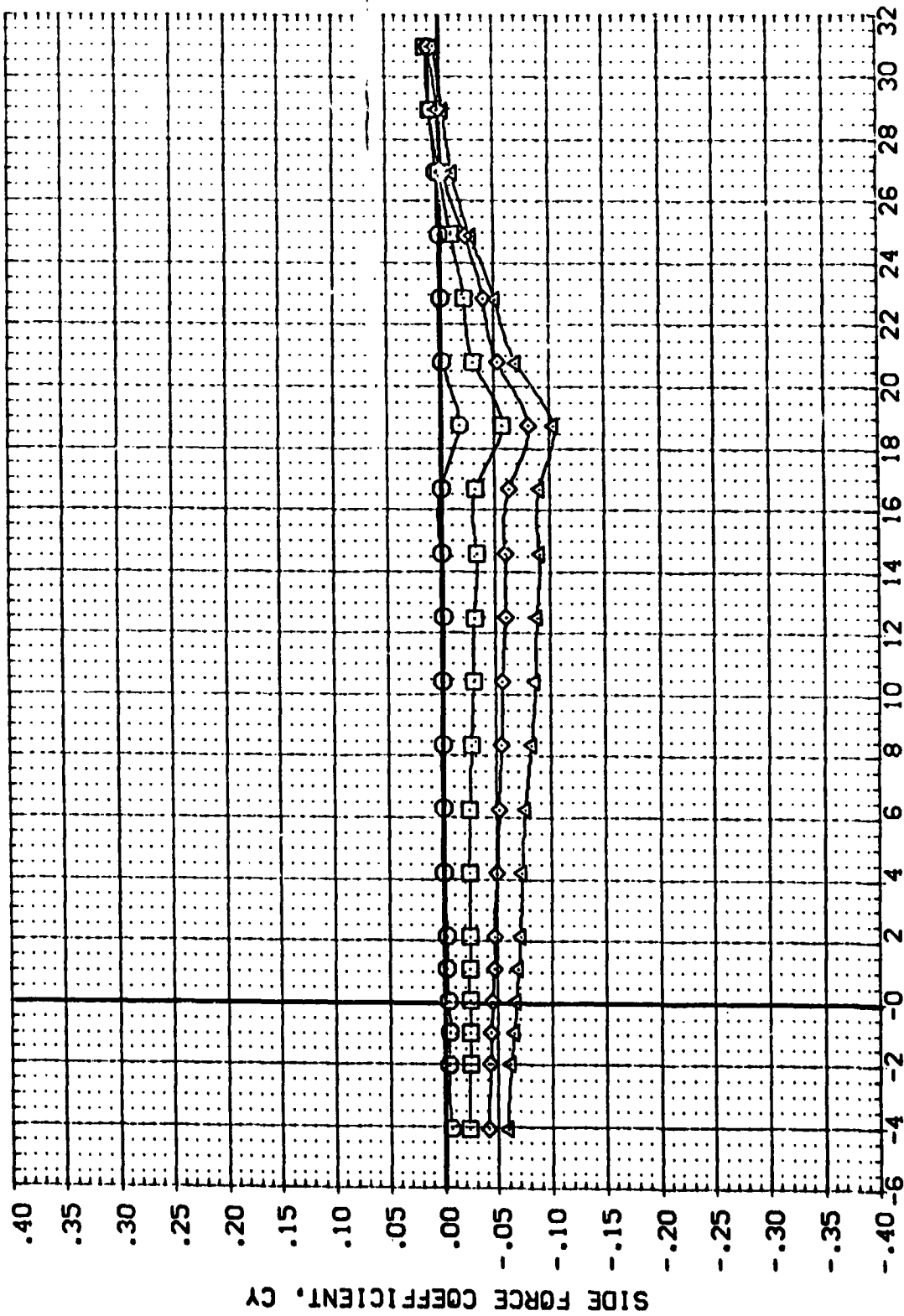
DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(R05023)	□	0A71A	B16C5 D7 F1J14V87 E18V3R3X10	.000	.000	.000	.200	SREF 4.4122 SO.FT. INCHES
(R05027)	□	0A71A	B16C5 D7 F1J14V87 E18V3R3X10	.000	.000	5.000	.200	LREF 19.2259 INCHES
(R05030)	□	0A71A	B16C5 D7 F1J14V87 E18V3R3X10	.000	.000	10.000	.200	BREF 37.9349 INCHES
(R05033)	□	0A71A	B16C5 D7 F1J14V87 E18V3R3X10	.000	.000	15.000	.200	XREF 43.5974 INCHES
								YREF 0.000 INCHES
								ZREF 16.2000 INCHES
								SCALE .0405



AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(R05046)	0A71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	.000	.000	SREF 4.4122 SQ.FT.
(R05050)	0A71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	5.000	.000	LREF 19.2299 INCHES
(R05052)	0A71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	10.000	.000	BREF 37.9349 INCHES
(R05057)	0A71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	15.000	.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

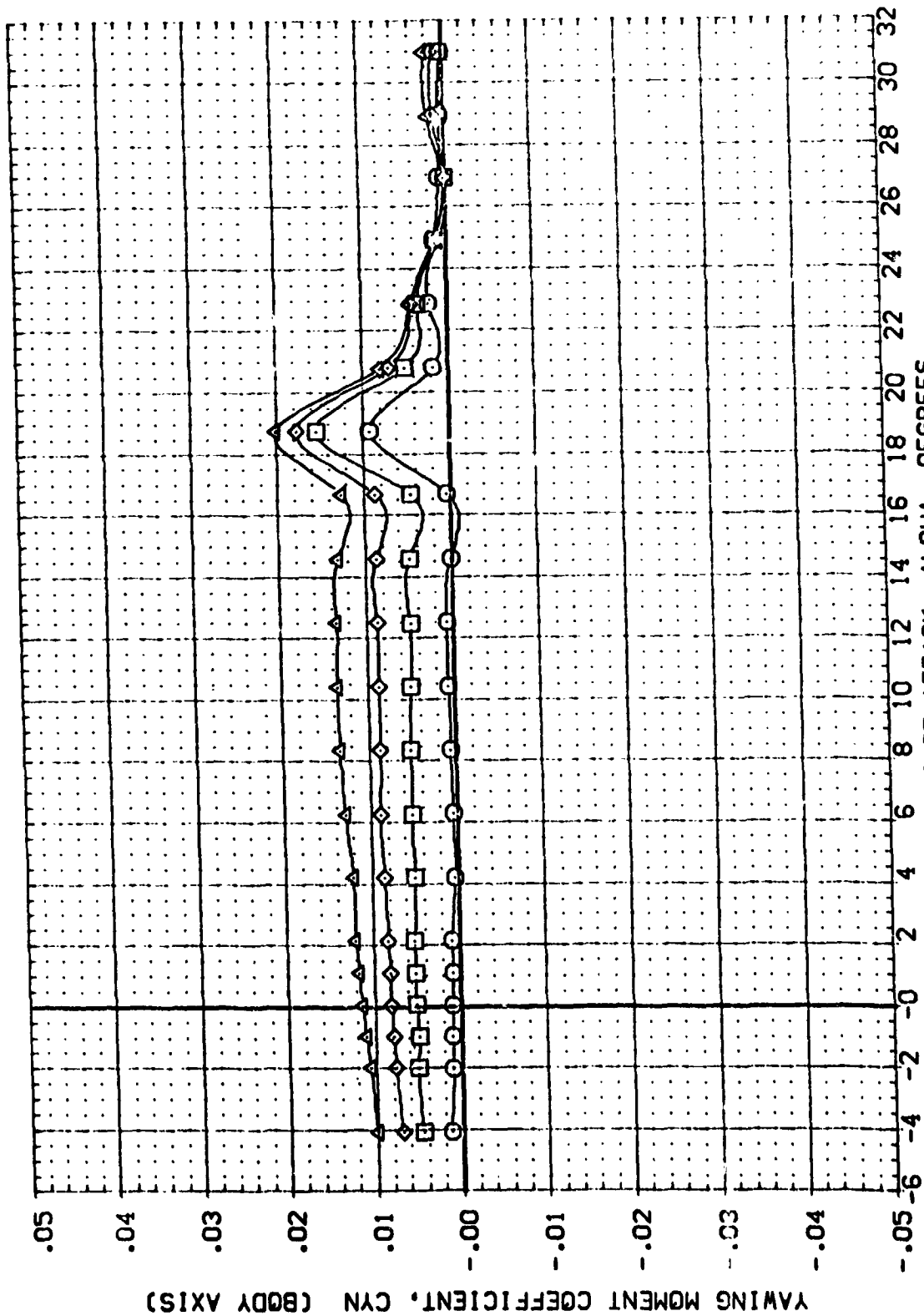


AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20



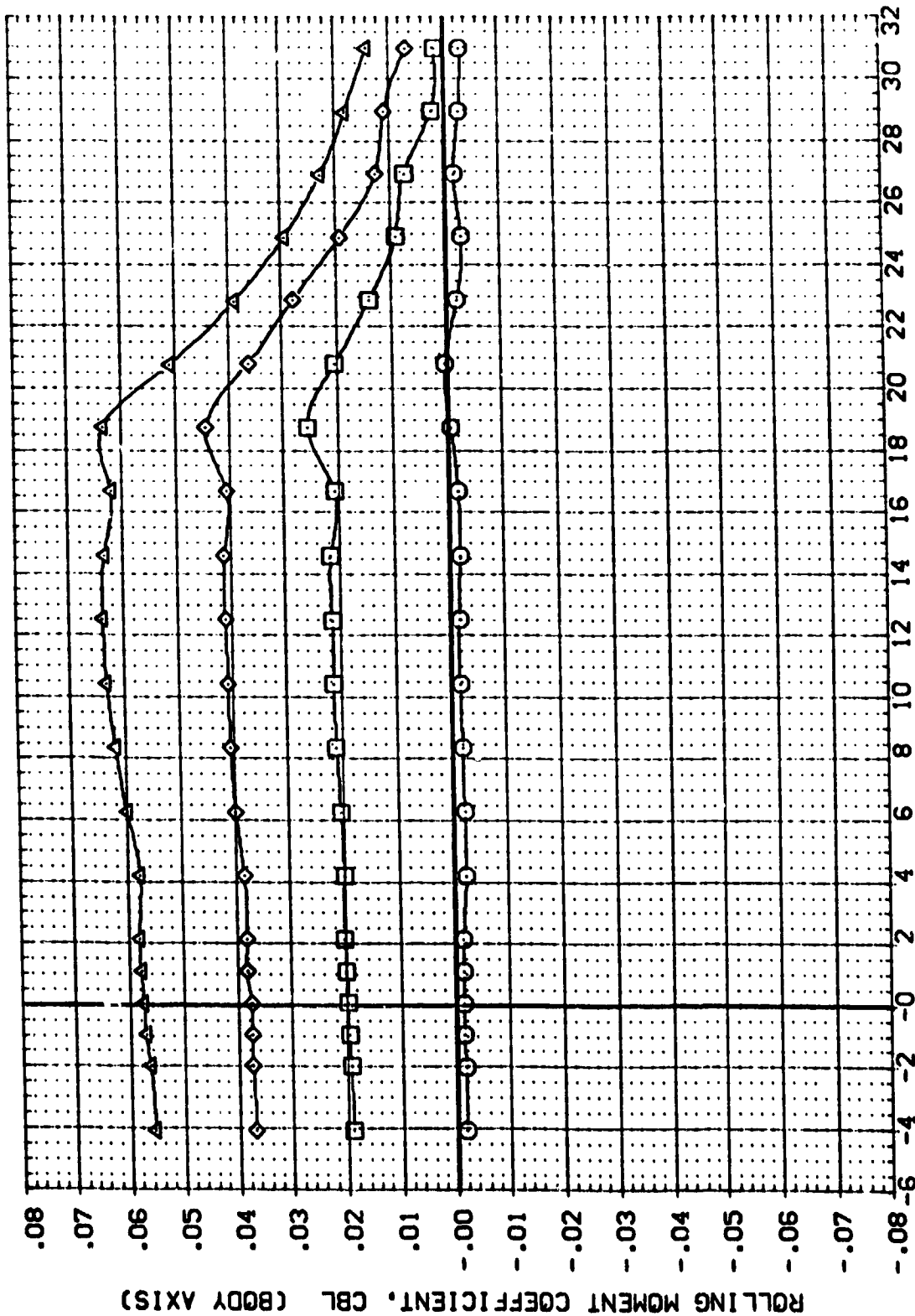
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACK/L	REFERENCE INFORMATION
(RDS046)	DA71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	.000	.000	SREF 4.4122 SQ.FT.
(RDS050)	DA71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	5.000	.000	LREF 19.2259 INCHES
(RDS052)	DA71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	10.000	.000	BREF 37.9349 INCHES
(RDS057)	DA71A B16C5 D7 FIJ17V87 E18V3R3X10	.000	.000	15.000	.000	VMRP 43.5974 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405



AILERON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(R05046)	0A71A B16C5 D7 F1J17V87 E18V3R3X10	.000	.000	.000	.000	SREF 4.4122 SQ.FT.
(R05050)	0A71A B16C5 D7 F1J17V87 E18V3R3X10	.000	.000	5.000	.000	LREF 19.2299 INCHES
(R05052)	0A71A B16C5 D7 F1J17V87 E18V3R3X10	.000	.000	10.000	.000	BREF 37.9349 INCHES
(R05057)	0A71A B16C5 D7 F1J17V87 E18V3R3X10	.000	.000	15.000	.000	XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405



AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RDS043) CA71A B16C5 D7 F1J17V87 E18V3R3X10
 (RDS041) CA71A B16C5 D7 F1J17V87 E18V3R3X10
 (RDS039) CA71A B16C5 D7 F1J17V87 E18V3R3X10
 (RDS035) CA71A B16C5 D7 F1J17V87 E18V3R3X10

BETA .000
 .000
 .000
 .000

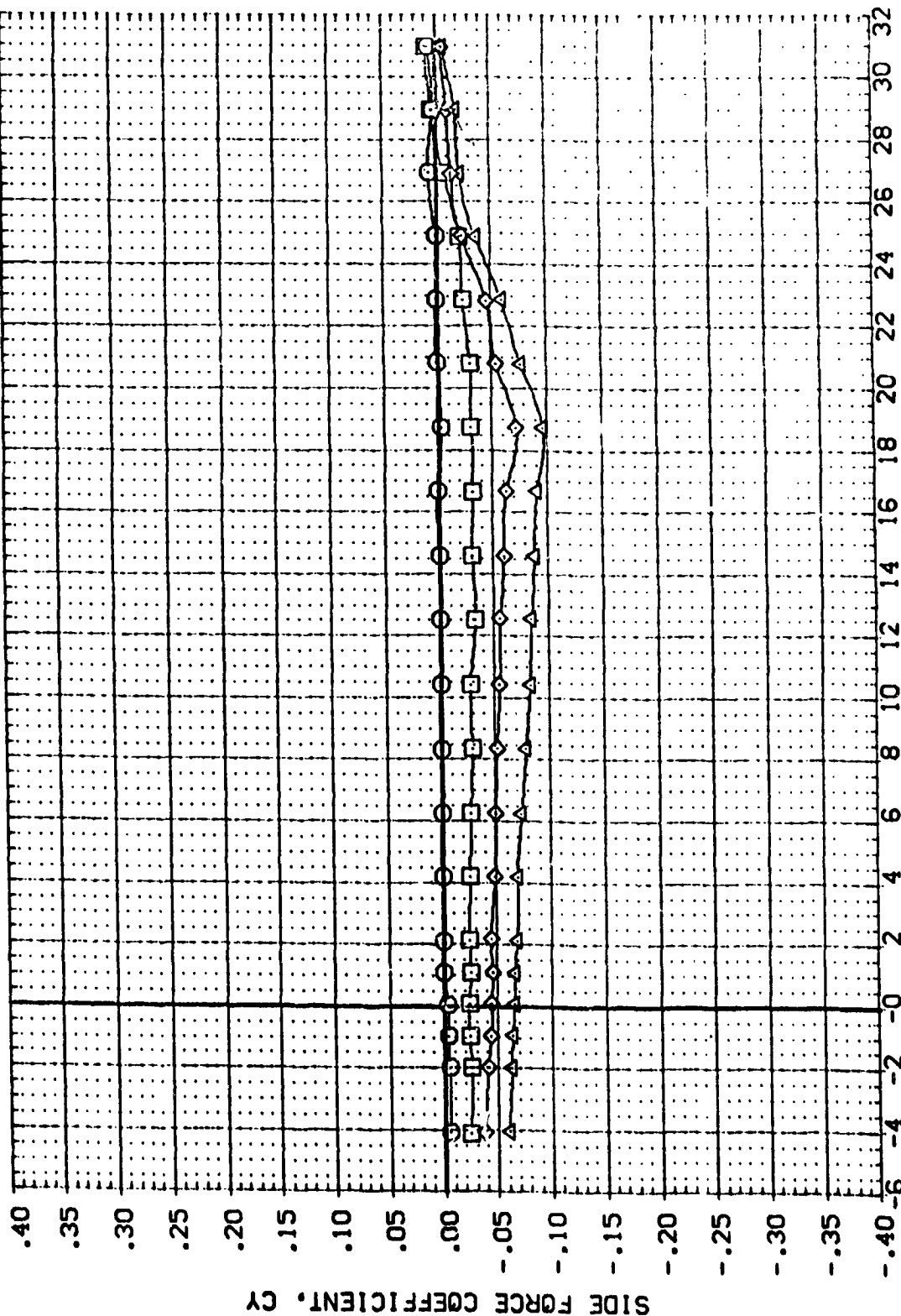
ELEVON .000
 .000
 .000
 .000

AILERON .000
 5.000
 10.000
 15.000

NACX/L .200
 .200
 .200
 .200

REFERENCE INFORMATION

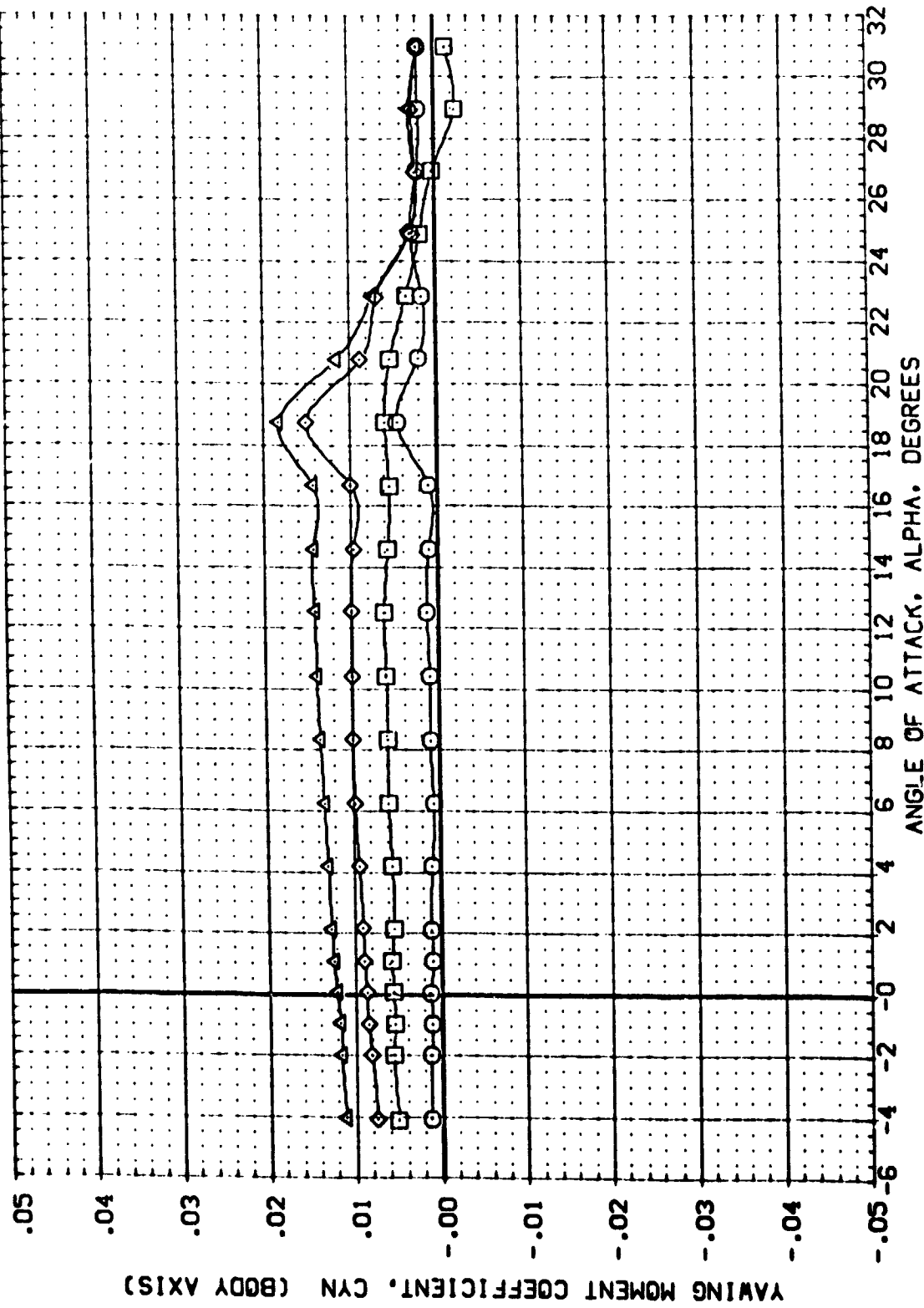
SREF 4.4122 SC.FT.
 LREF 19.2295 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE



AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT
 ANGLE OF ATTACK, ALPHA, DEGREES

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	AILERON	NACA/L	REFERENCE INFORMATION
(R05043)	CA71A B16CS D7 F1J17V87 E18V3K3X10	.000	.000	.000	.200	SREF 4.4122 50. FT.
(R05041)	CA71A B16CS D7 F1J17V87 E18V3K3X10	.000	.000	5.000	.200	LREF 19.2259 INC-ES
(R05039)	CA71A B16CS D7 F1J17V87 E18V3K3X10	.000	.000	10.000	.200	BREF 37.9349 INC-ES
(R05035)	CA71A B16CS D7 F1J17V87 E18V3K3X10	.000	.000	15.000	.200	XMRP 43.5974 INC-ES
						ZMRP .0000 INC-ES
						SCALE 16.2000 INC-ES
						.0405 SCALE



AILERON EFFECTIVENESS -898 FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

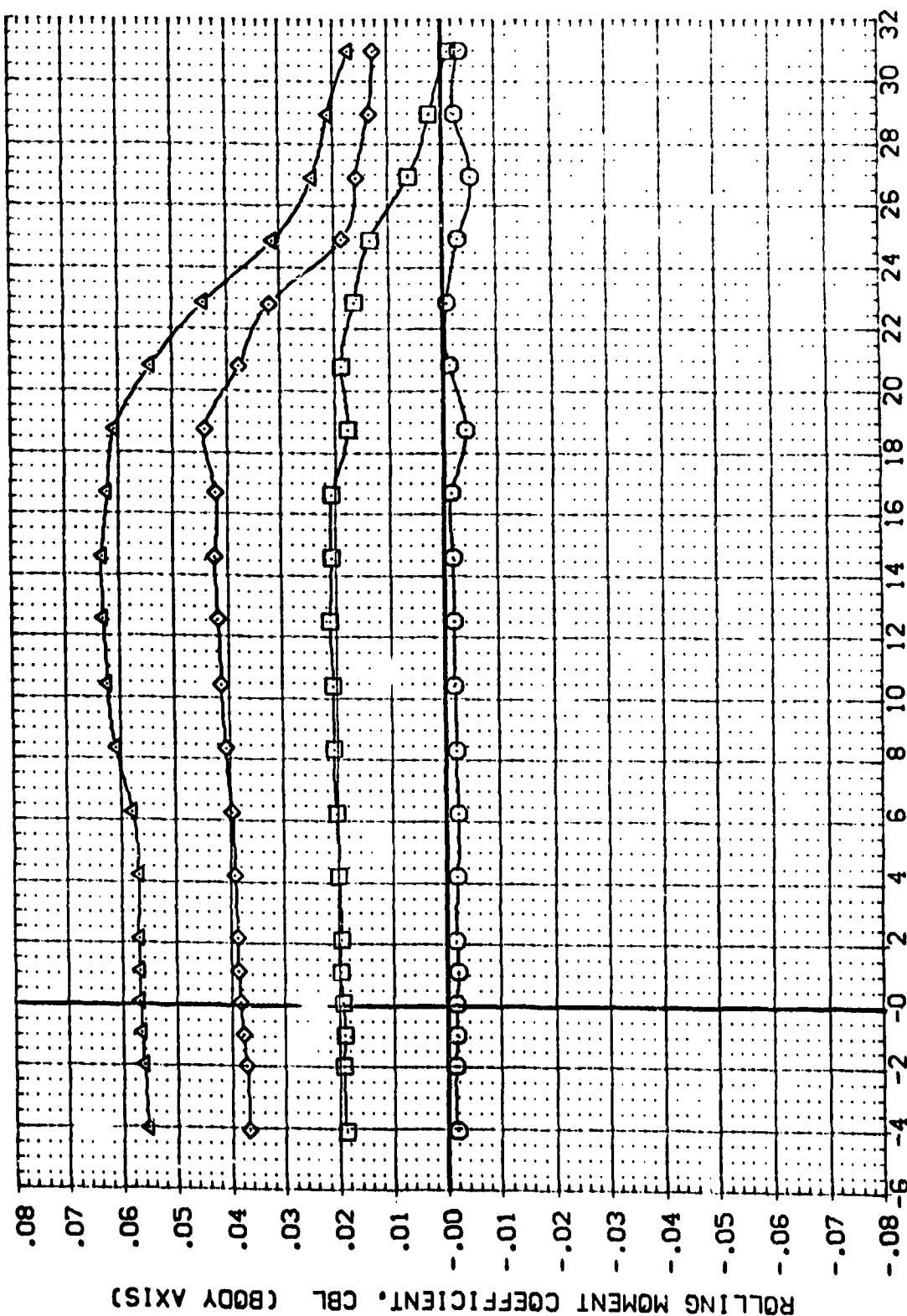
PAGE

64



DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION
(R05043)	□	0A71A	B16CS 07 F1417V87 E18V3R3X10
(R05041)	◇	0A71A	B16CS 07 F1417V87 E18V3R3X10
(R05039)	△	0A71A	B16CS 07 F1417V87 E18V3R3X10
(R05035)	○	0A71A	B16CS 07 F1417V87 E18V3R3X10

BETA	ELEVON	AILERON	MACVL	REFERENCE INFORMATION
.000	.000	.000	.200	SREF 4.4122 SQ.FT.
.000	.000	5.000	.200	LREF 19.2299 INCHES
.000	.000	10.000	.200	BREF 37.9349 INCHES
.000	.000	15.000	.200	VMRP 43.5974 INCHES
				VMRP 0000 INCHES
				ZMRP 16.2000 INCHES
				SCALE .0405



ANGLE OF ATTACK, ALPHA, DEGREES

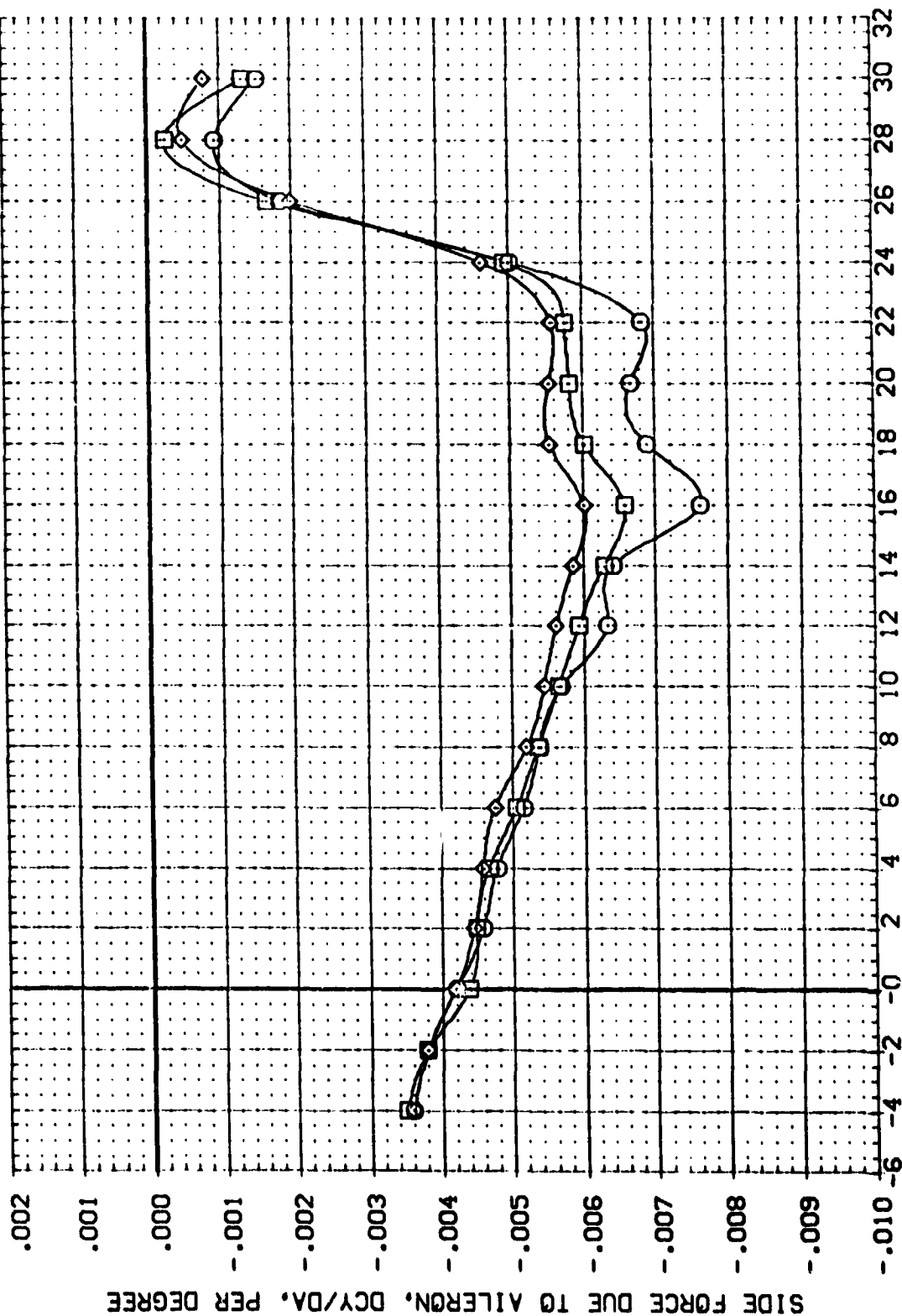
AILERON EFFECTIVENESS -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

REFERENCE INFORMATION
 SREF 4.4122 SQ.F.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF 6.000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

BETA DAILON ELEVON
 .000 .000 .000
 .000 .000 .000
 .000 .000 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C05C05) 0A71A B16CS D7 F1 V87E18V3R3X9
 (C05C07) 0A71A B16CS D7 F1 V87E18V3R3X9
 (C05C10) 0A71A B16CS D7 F1 V87E18V3R3X9



AILERON DERIVATIVE -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

REFERENCE INFORMATION

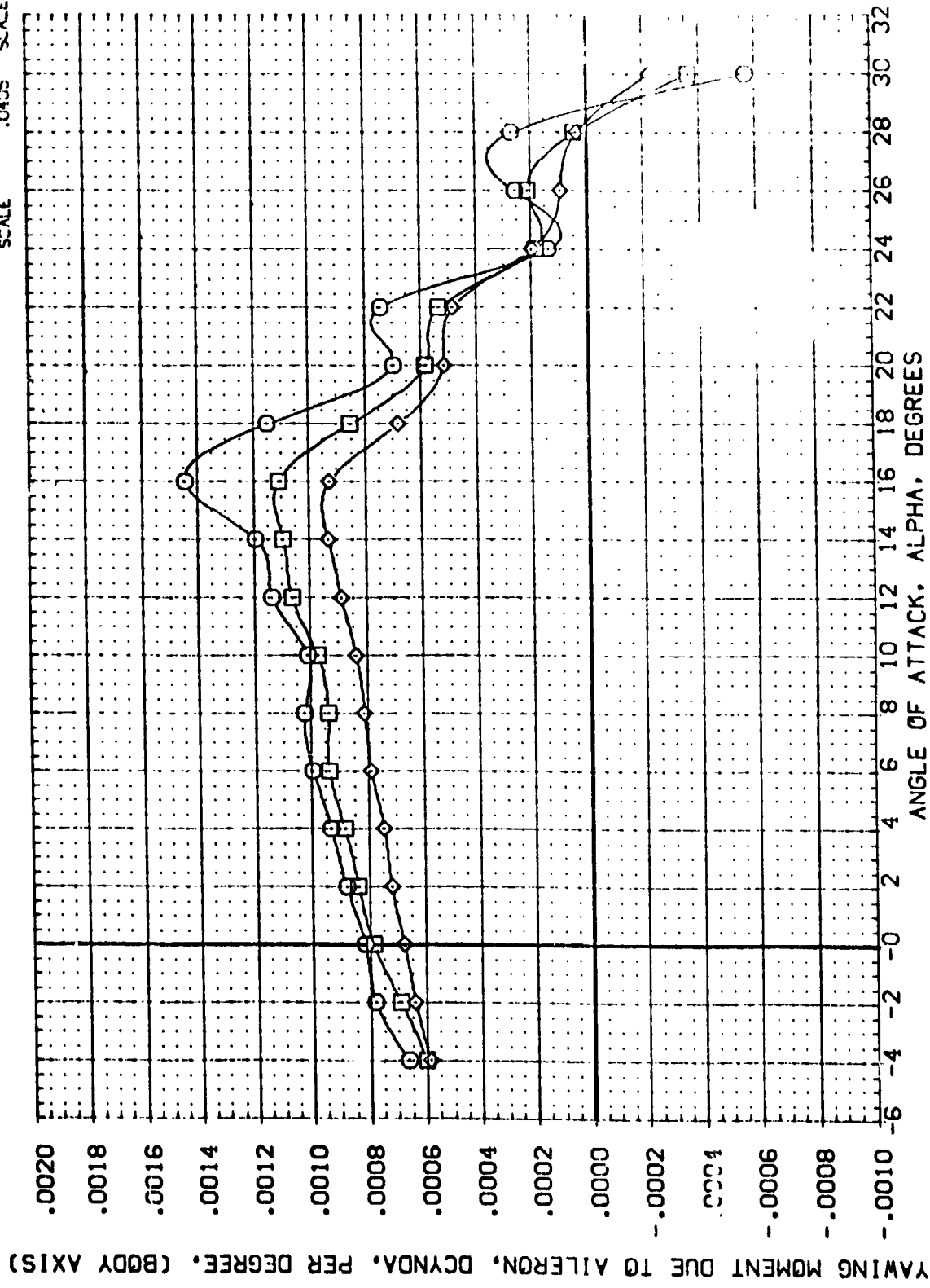
SREF	4.4122	SO. FT.
LREF	19.2299	INCHES
BREF	37.9349	INCHES
XMSP	43.5974	INCHES
YMRP	0.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

BETA DAILRN ELEVON

.000	5.000	.000
.000	10.000	.000
.000	15.000	.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CDSC05)	DA71A	B16CS	D7	F1	V87E18V3R3X9
(CDSC07)	DA71A	B16CS	D7	F1	V87E18V3R3X9
(CDSC10)	DA71A	B16CS	D7	F1	V87E18V3R3X9



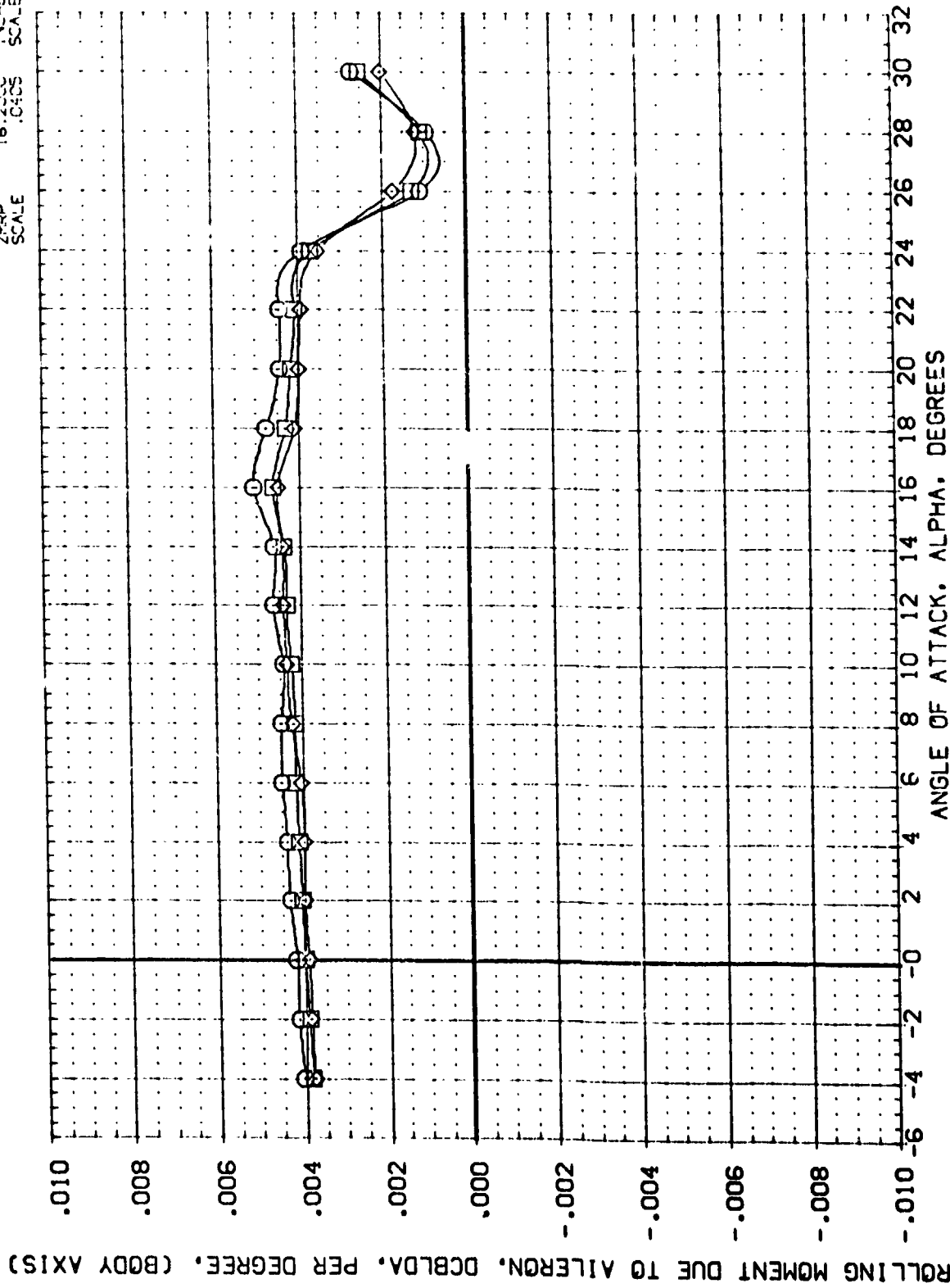
AILERON DERIVATIVE -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CDS05) 0A71A B16CS D7 F1 V87E18V3R3X8
 (CDS07) 0A71A B16CS D7 F1 V87E18V3R3X8
 (CDS10) 0A71A B16CS D7 F1 V87E18V3R3X8

BETA DAILRN ELEVON
 .000 5.000 .000
 .000 10.000 .000
 .000 15.000 .000

REFERENCE INFORMATION
 SREF 4.4122 SC.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP 16.2000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0005



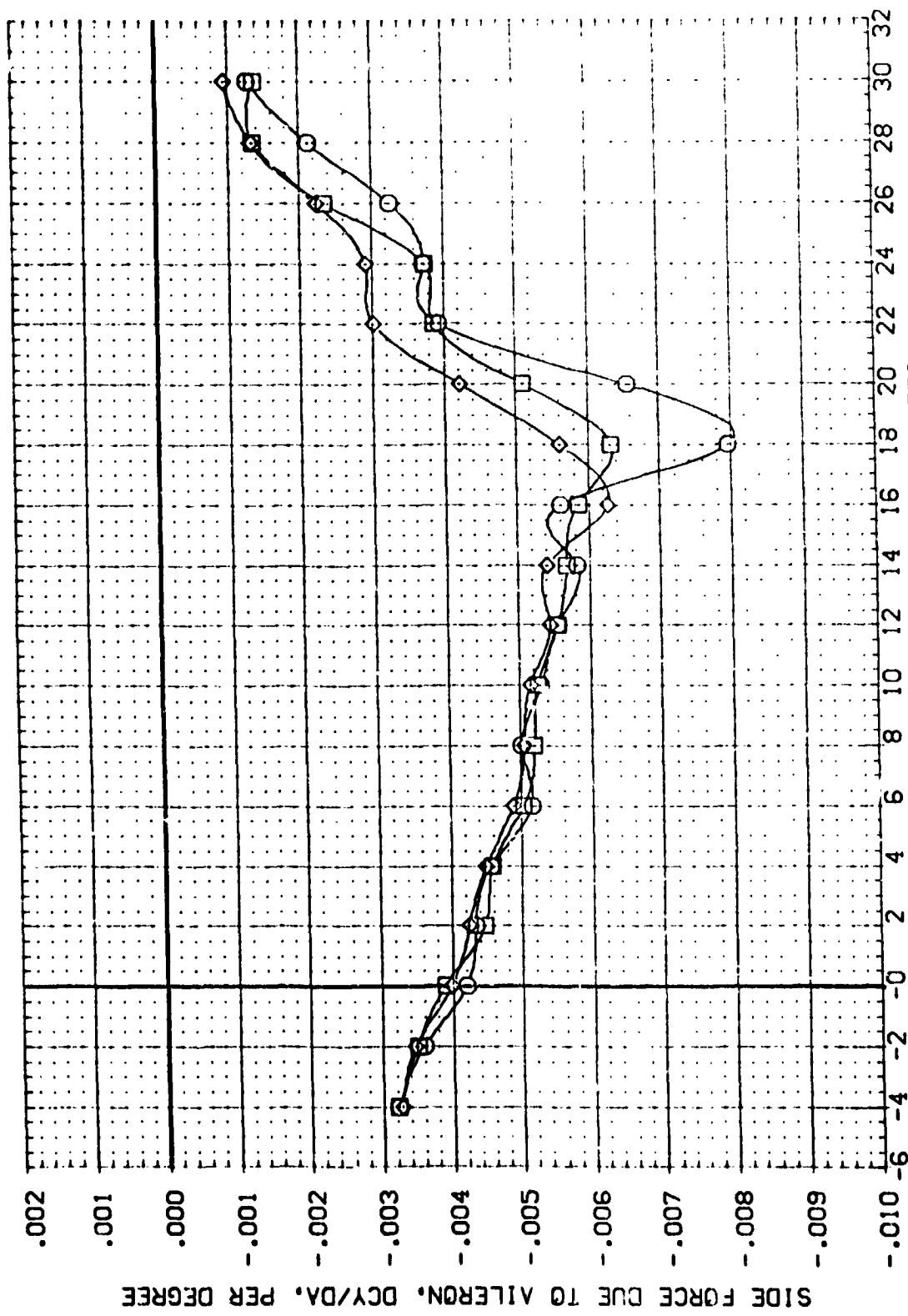
AILERON DERIVATIVE -89B FERRY CONFIGURATION - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CSC16) 0A71A 816CS D7 FJ14V87 E18V363X10
 (CSC14) 0A71A 816CS D7 FJ14V87 E18V363X10
 (CSC11) 0A71A 816CS D7 FJ14V87 E18V363X10

BETA DAILRN ELEVON
 .000 5.000 .000
 .000 10.000 .000
 .000 15.000 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XPRP 43.5974 INCHES
 YPRP .0000 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

REFERENCE INFORMATION

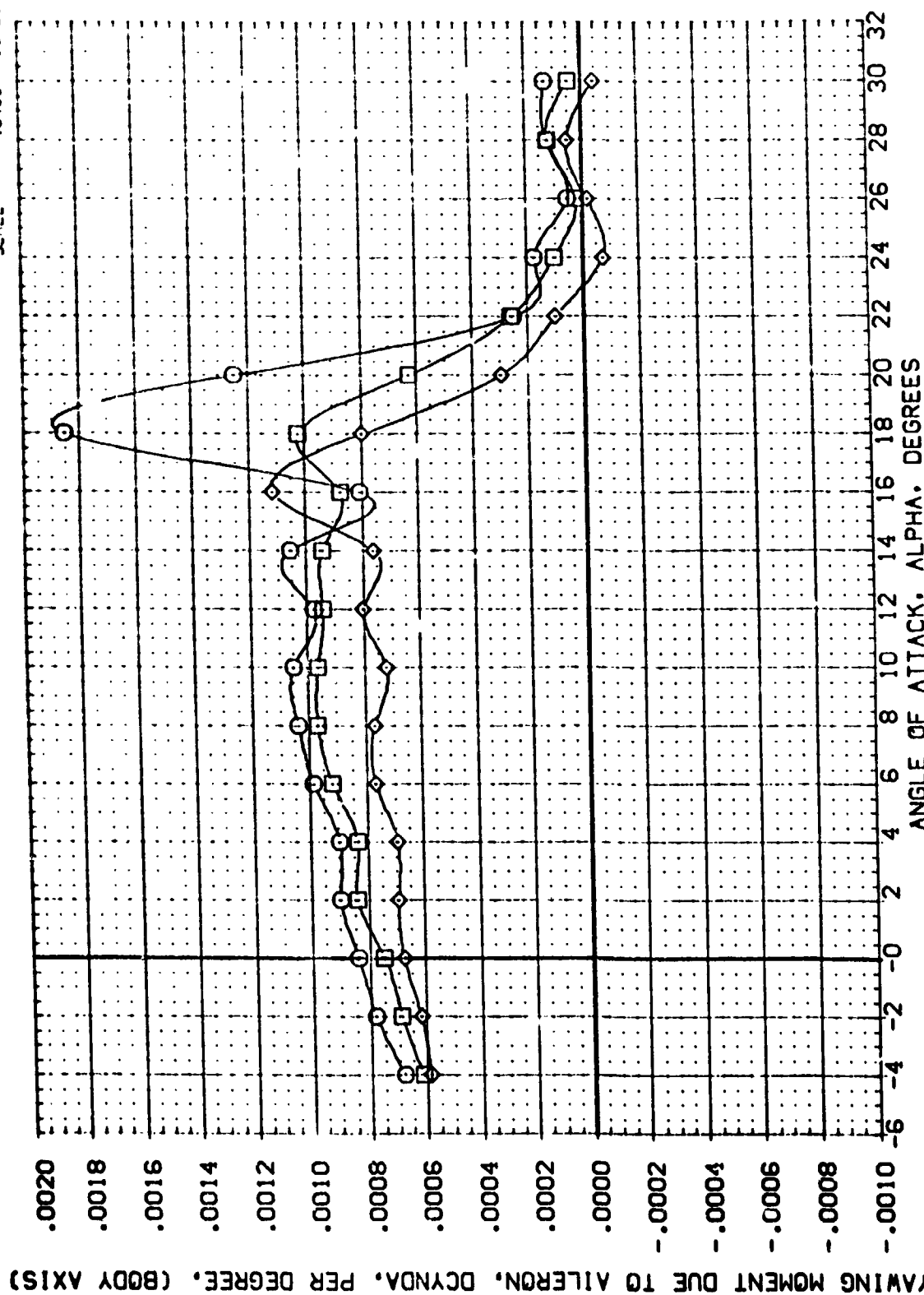
SREF	4.4122	SO.FI.	SS
LREF	19.2259	SO.FI.	SS
BREF	37.9349	SO.FI.	SS
XREF	43.5874	SO.FI.	SS
YREF	16.2000	SO.FI.	SS
SCALE	16.2000	SO.FI.	SS

BETA

BETA	.000	ELEV	.000
BETA	.000	ELEV	.000
BETA	.000	ELEV	.000
BETA	.000	ELEV	.000

DATA SET SYMBOL

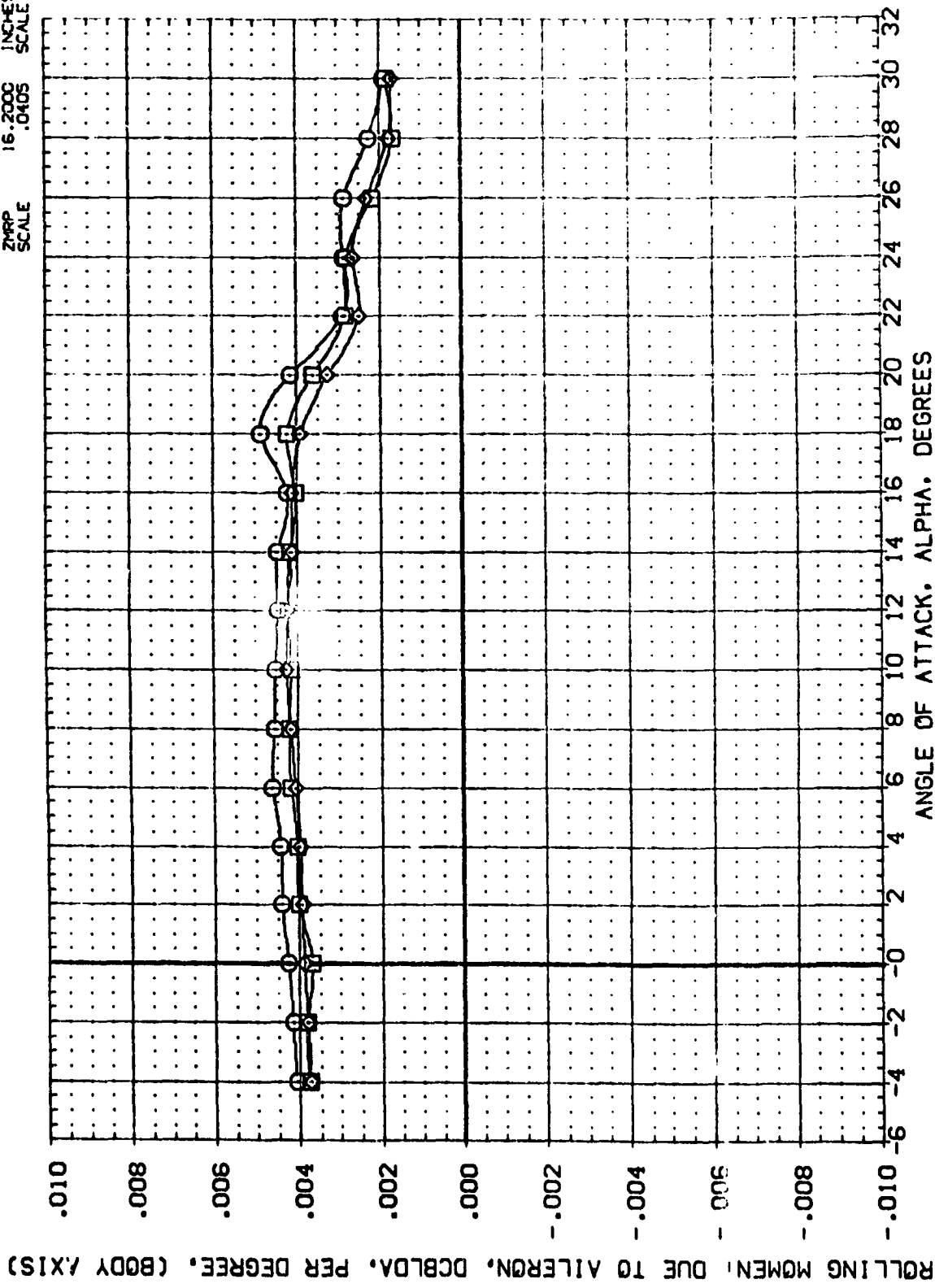
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C00016)	0A71A B16C5 D7 F1J14V87 E18V3K2X10
(C00014)	0A71A B16C5 D7 F1J14V87 E18V3K2X10
(C00011)	0A71A B16C5 D7 F1J14V87 E18V3K2X10



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

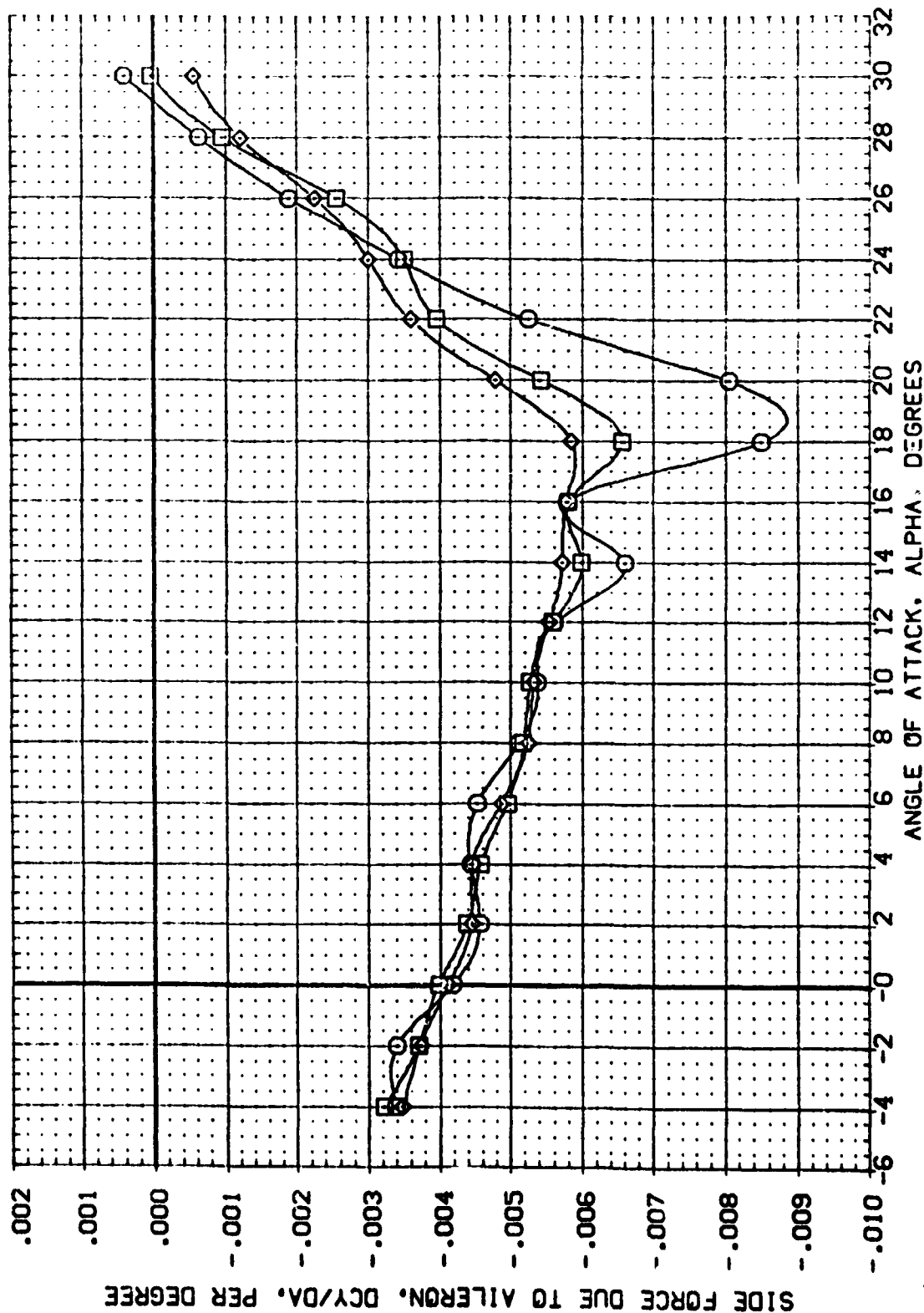
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DAILRN	ELEVON	REFERENCE INFORMATION
(COSC16)	0A71A B16CS D7 FIJ14V87 E18V3K3X10	.000	5.000	.000	SREF 4.4122 SQ.FT.
(COSC14)	0A71A B16CS D7 FIJ14V87 E18V3K3X10	.000	10.000	.000	LREF 19.2299 INCHES
(COSC11)	0A71A B16CS D7 FIJ14V87 E18V3K3X10	.000	15.000	.000	BREF 37.9349 INCHES
					YMRP 43.5974 INCHES
					ZMRP 16.2000 INCHES
					SCALE .0405 INCHES



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J14 ABPS

(A)MACH = 0.20

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		BETA		DAILRN		ELEVON		REFERENCE INFORMATION	
(00SC27)	0A71A	B16C5	D7	FIJ14V87	E18V3R3X10	.000	5.000	.000	SREF	4.4122	SC.FT.
(00SC30)	0A71A	B16C5	D7	FIJ14V87	E18V3R3X10	.000	10.000	.000	LREF	19.2289	NC.FT.
(00SC33)	0A71A	B16C5	D7	FIJ14V87	E18V3R3X10	.000	15.000	.000	BREF	37.9349	NC.FT.
									YMRP	43.5874	NC.FT.
									ZMRP	16.2000	NC.FT.
									SCALE	.0403	SCALE



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(COSC27) 0A71A B16CS D7 F1J14V87 E18V3K3X10

(COSC30) 0A71A B16CS D7 F1J14V87 E18V3K3X10

(COSC33) 0A71A B16CS D7 F1J14V87 E18V3K3X10

BETA DAILRN ELEVON

.000 5.000 .000

.000 10.000 .000

.000 15.000 .000

REFERENCE INFORMATION

SREF 4.4122 SQ.FT.

LREF 19.2299 INCHES

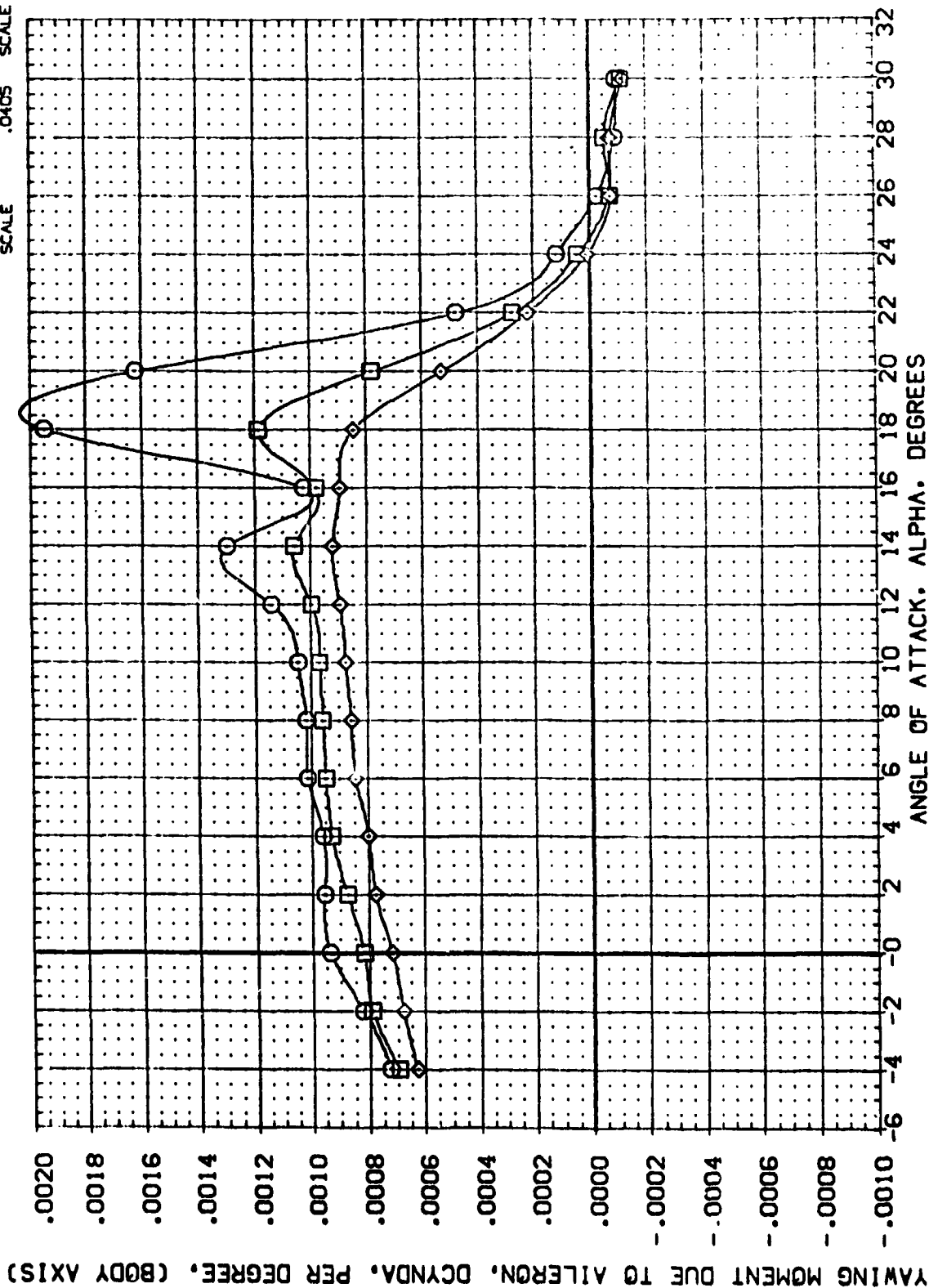
BREF 37.9349 INCHES

XREF 43.5974 INCHES

YREF .0000 INCHES

ZREF 16.2000 INCHES

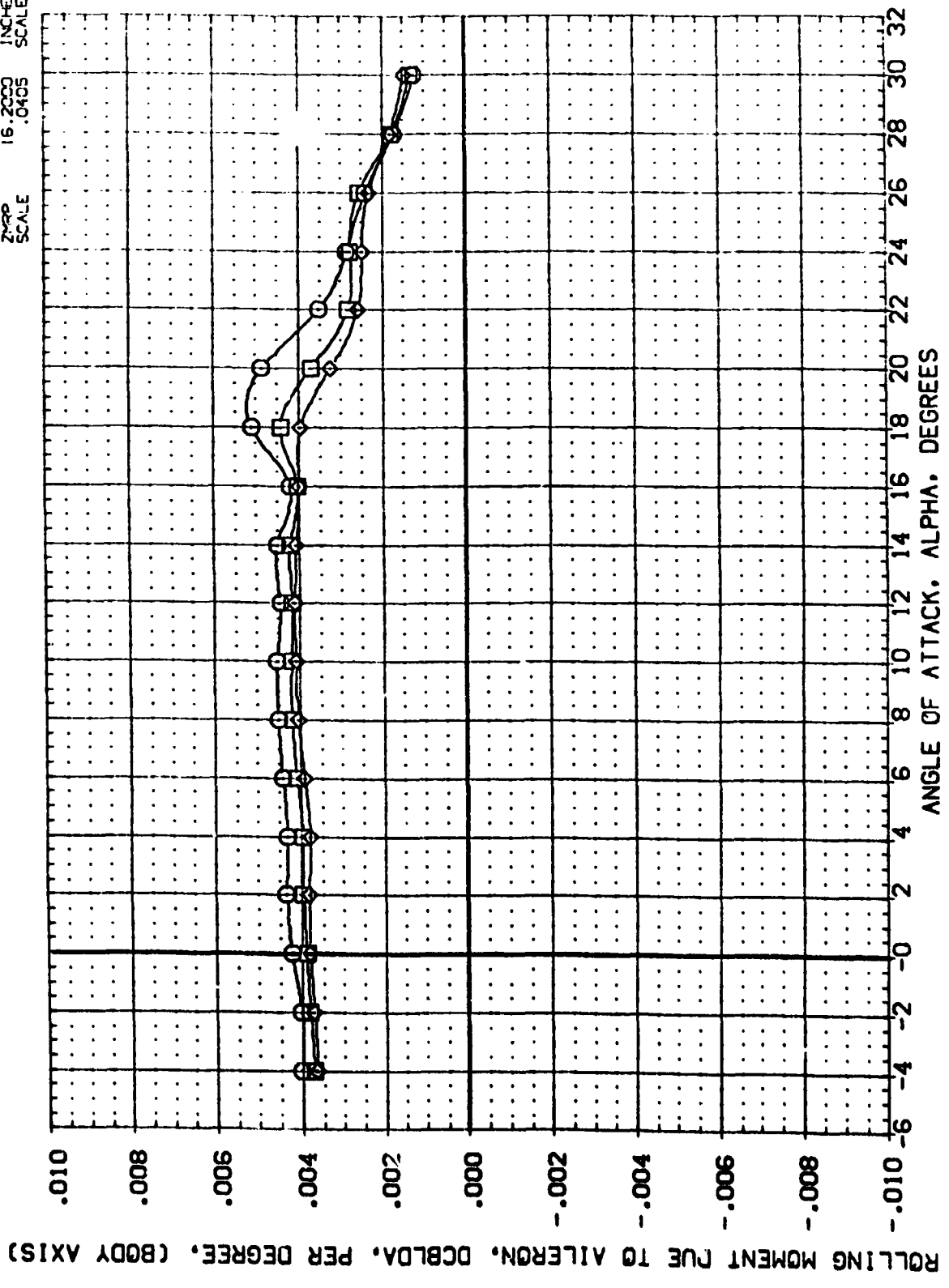
SCALE .0405 SCALE



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J14 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		BETA		DAILRN		ELEVON		REFERENCE INFORMATION	
(CSC27)	0A71A	B16C5	D7	FIJ14V87	E18V3R3X10	.000	5.000	.000	SREF	4.4122	50. FT
(CSC30)	0A71A	B16C5	D7	FIJ14V87	E18V3R3X10	.000	10.000	.000	LREF	19.2259	INCHES
(CSC33)	0A71A	B16C5	D7	FIJ14V87	E18V3R3X10	.000	15.000	.000	SREF	37.5349	INCHES
									XREF	43.5974	INCHES
									YREF	.0000	INCHES
									ZREF	16.2000	INCHES
									SCALE	.0405	SCALE



DATA SET SYMBOL CONFIGURATION DESCRIPTION BETA DAILRN ELEVON

(C0SC50) 0A71A B16C5 07 FIJ17N87 E18V3R3X10 .000 5.000 .000

(C0SC52) 0A71A B16C5 07 FIJ17N87 E18V3R3X10 .000 10.000 .000

(C0SC57) 0A71A B16C5 07 FIJ17N87 E18V3R3X10 .000 15.000 .000

REFERENCE INFORMATION

SREF 4.4122 SQ.FT.

LREF 19.2289 INCHES

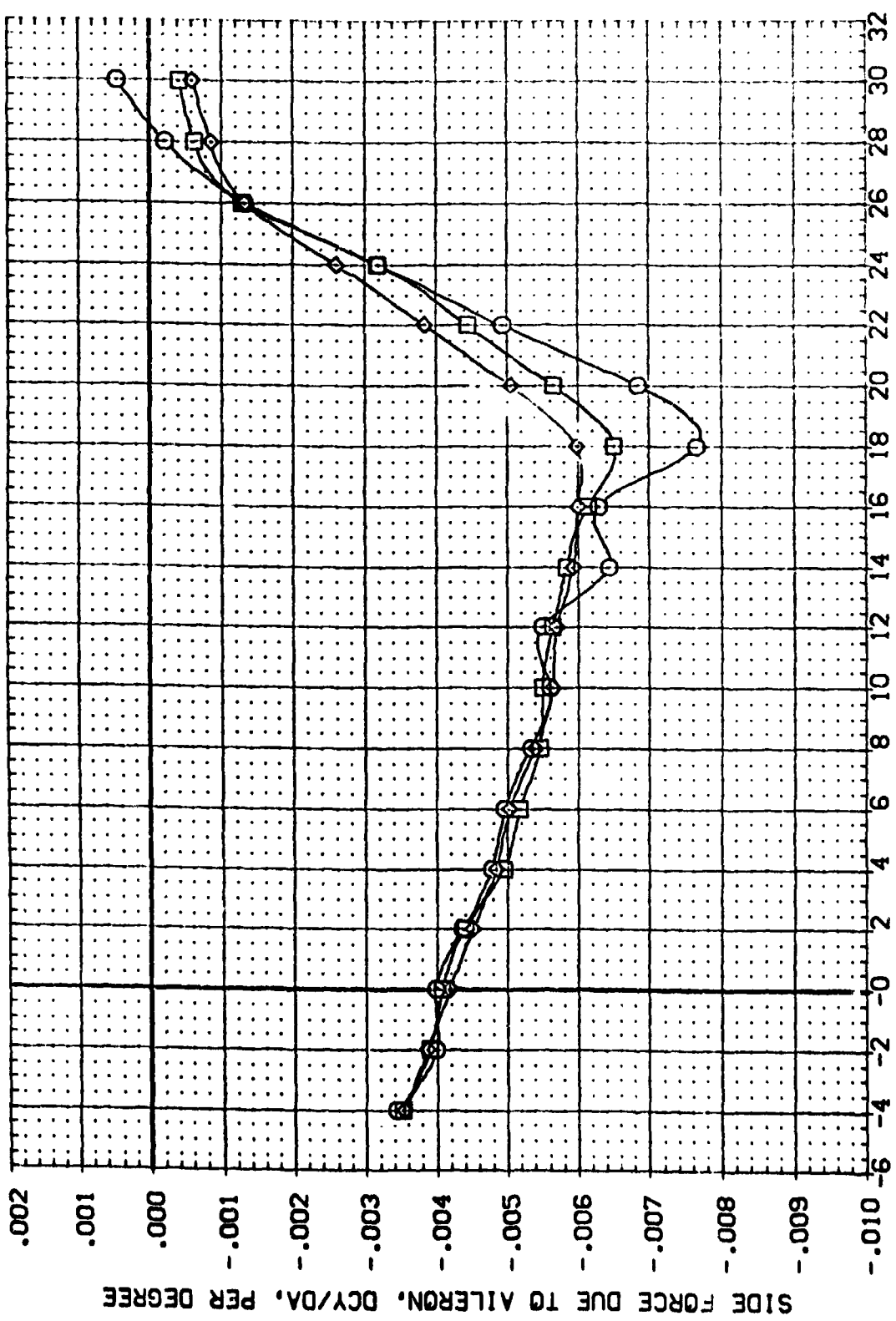
BREF 37.9349 INCHES

XMRP 43.5974 INCHES

YMRP .0000 INCHES

ZMRP 16.2000 INCHES

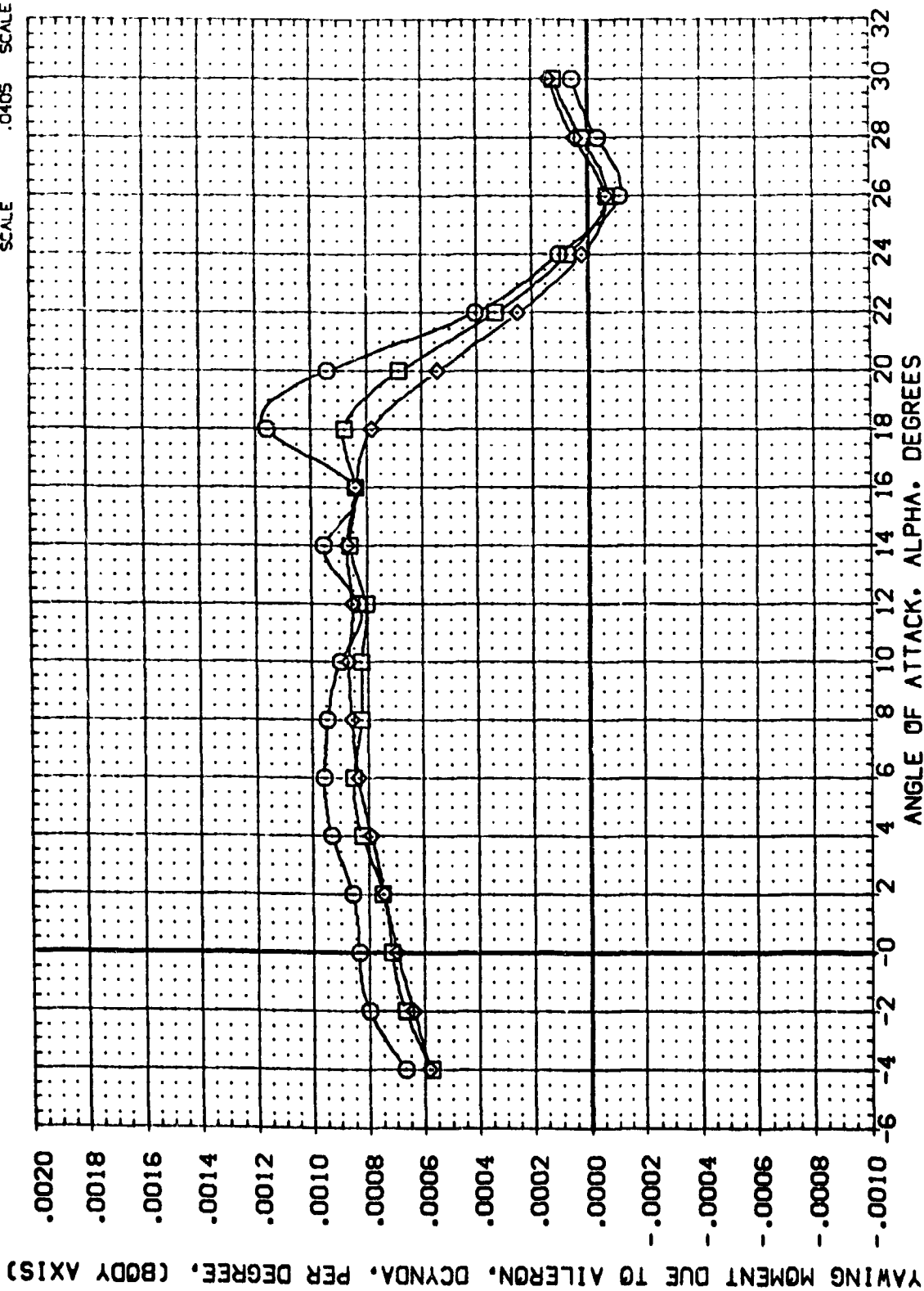
SCALE .0405 INCHES



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DAILRN	ELEVON	REFERENCE INFORMATION
(C05C50)	0A71A 816CS D7 FIJ17V87 E18V3R3X10	.000	5.000	.000	SREF 4.4122 50.FT.
(C05C52)	0A71A 816CS D7 FIJ17V87 E18V3R3X10	.000	10.000	.000	LREF 19.2289 INCHES
(C05C57)	0A71A 816CS D7 FIJ17V87 E18V3R3X10	.000	15.000	.000	BREF 37.9349 INCHES
					X-PP 43.5974 INCHES
					Y-PP .0000 INCHES
					Z-PP 16.2000 INCHES
					SCALE .0405

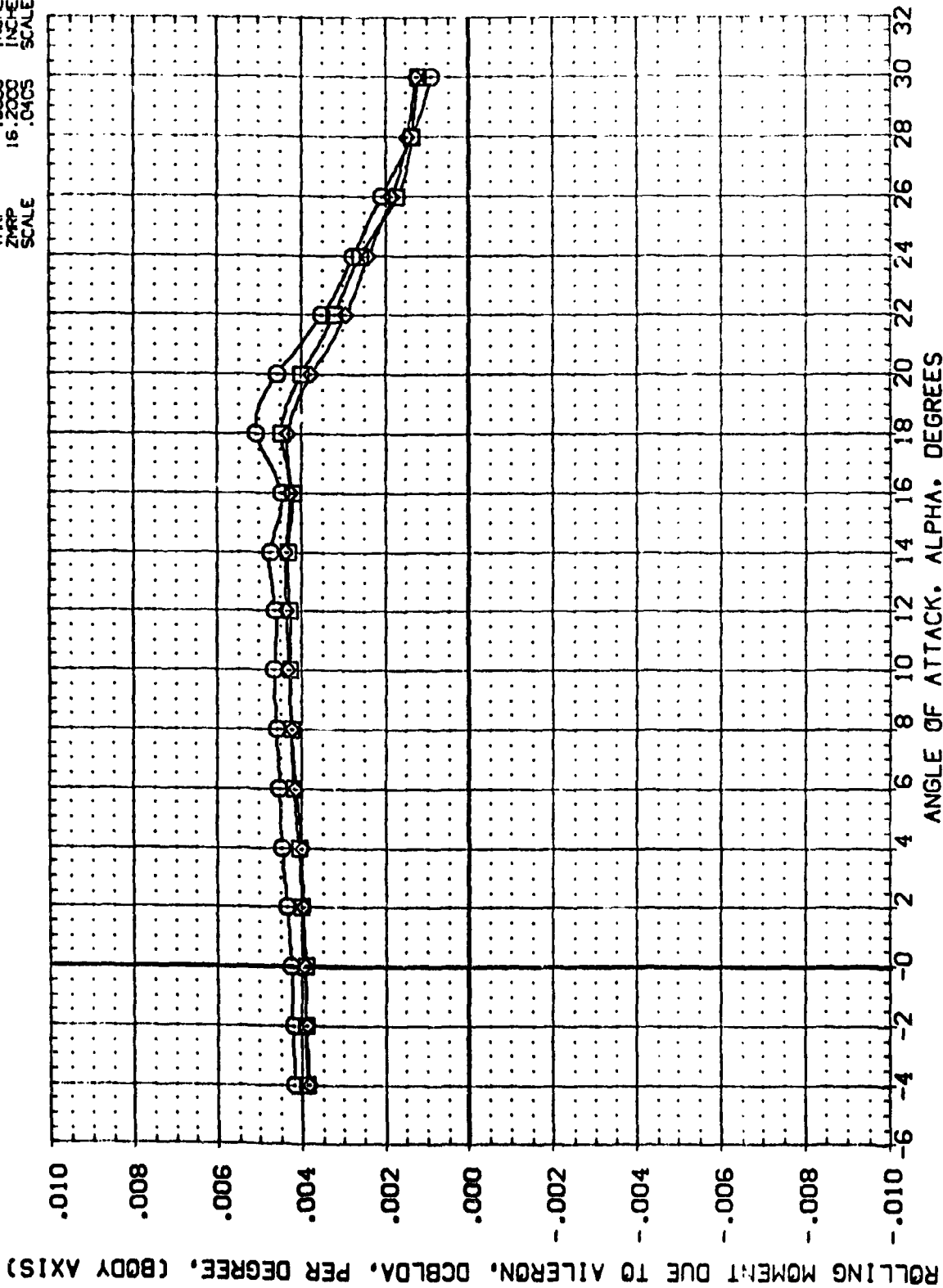


AILERON DERIVATIVE -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20



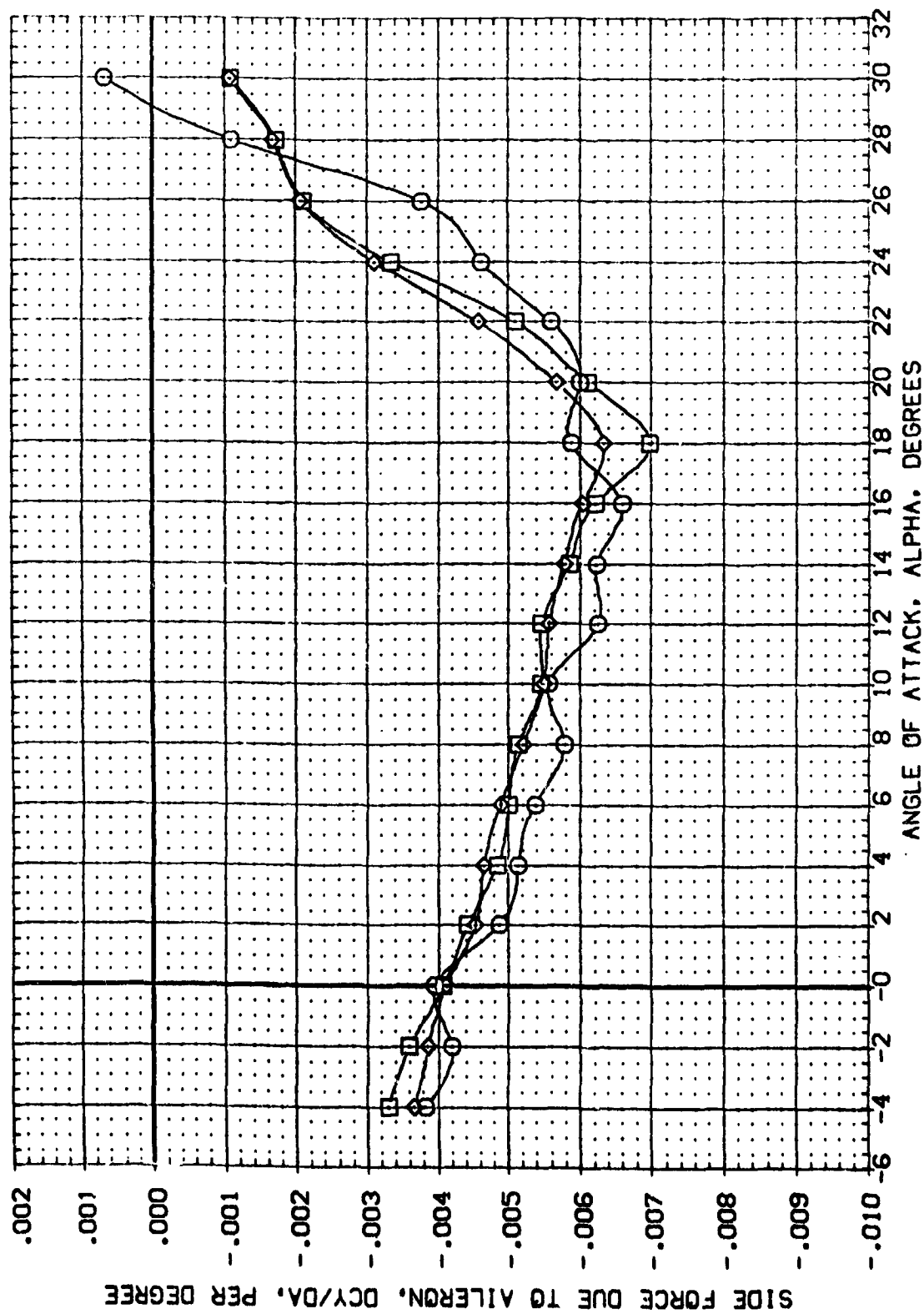
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DAILRN	ELEVON	REFERENCE INFORMATION
(CDS50)	0A71A B16C5 D7 F1J17W67 E18V3K3X10	.000	5.000	.000	SREF 4.4122 SO.FT.
(CDS52)	0A71A B16C5 D7 F1J17W67 E18V3K3X10	.000	10.000	.000	LSREF 19.2299 INCHES
(CDS57)	0A71A B16C5 D7 F1J17W67 E18V3K3X10	.000	15.000	.000	BSREF 37.9319 INCHES
					XMRP 43.5574 INCHES
					YMRP .0000 INCHES
					ZMRP 16.2000 INCHES
					SCALE .041C5



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		BETA		DAILRN		ELEVON		REFERENCE INFORMATION	
(COSC41)	0A71A	B16C5-07	FIJ17V67 E18V3R3X10	.000	5.000	.000	SREF	4.4122	50. FT.	SREF	4.4122
(COSC38)	0A71A	B16C5-07	FIJ17V67 E18V3R3X10	.000	10.000	.000	LREF	19.2259	INCHES	LREF	19.2259
(COSC35)	0A71A	B16C5-07	FIJ17V67 E18V3R3X10	.000	15.000	.000	BREF	37.9349	INCHES	BREF	37.9349
							XMRP	43.5974	INCHES	XMRP	43.5974
							ZMRP	.0000	INCHES	ZMRP	.0000
							SCALE	16.2000	INCHES	SCALE	16.2000
								.0405	INCHES		.0405



AILERON DERIVATIVE -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

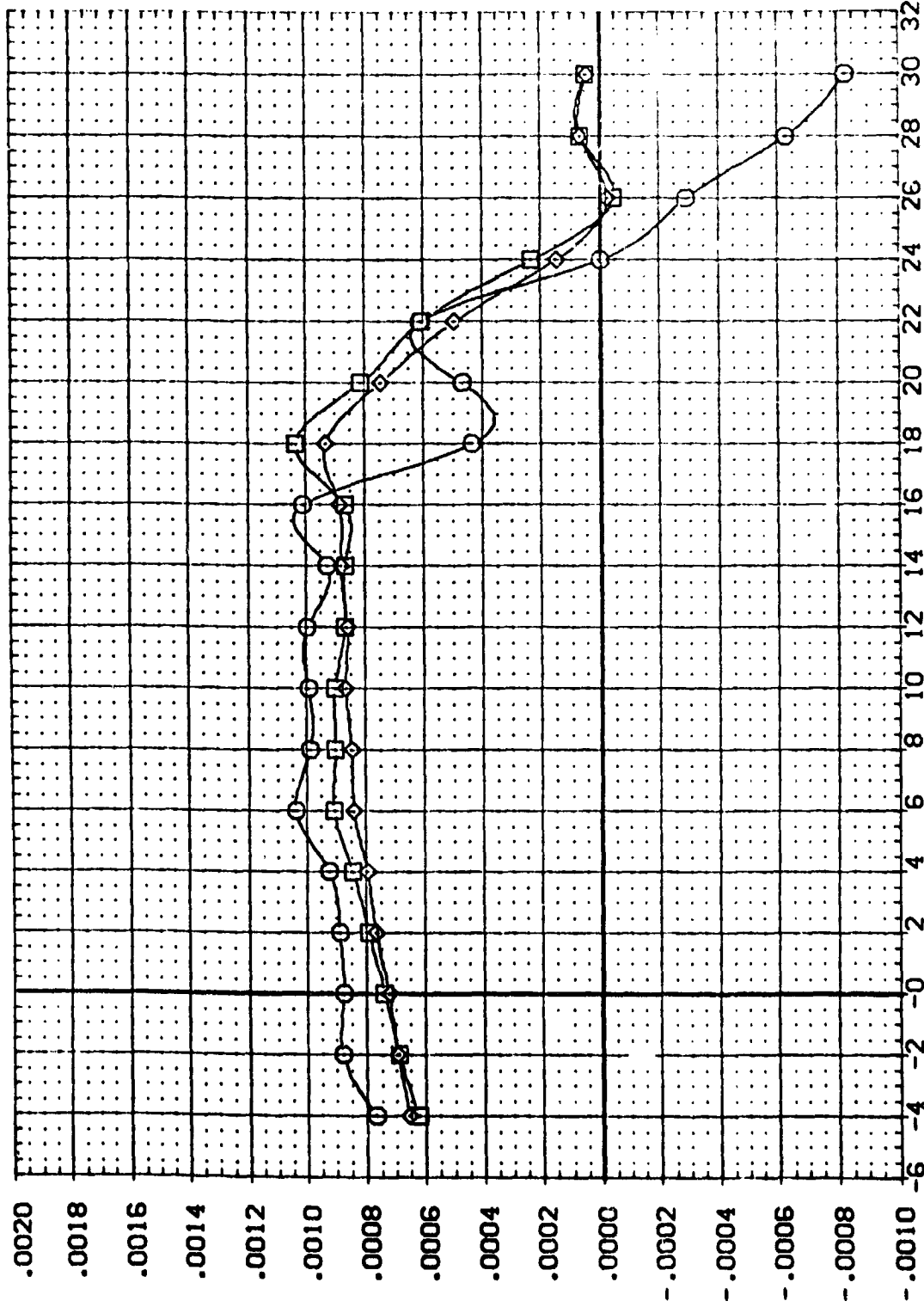
(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (COS41) 071A B16C5 D7 FIJ17V87 E18V3R3X10
 (COS39) 071A B16C5 D7 FIJ17V87 E18V3R3X10
 (COS35) 071A B16C5 D7 FIJ17V87 E18V3R3X10

BETA DAILRN ELEVON
 .000 5.000 .000
 .000 10.000 .000
 .000 15.000 .000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2295 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP .0000 INCHES
 SCALE .0405 SCALE

YAWING MOMENT DUE TO AILERON, DCYND, PER DEGREE, (BODY AXIS)



ANGLE OF ATTACK, ALPHA, DEGREES

AILERON DERIVATIVE

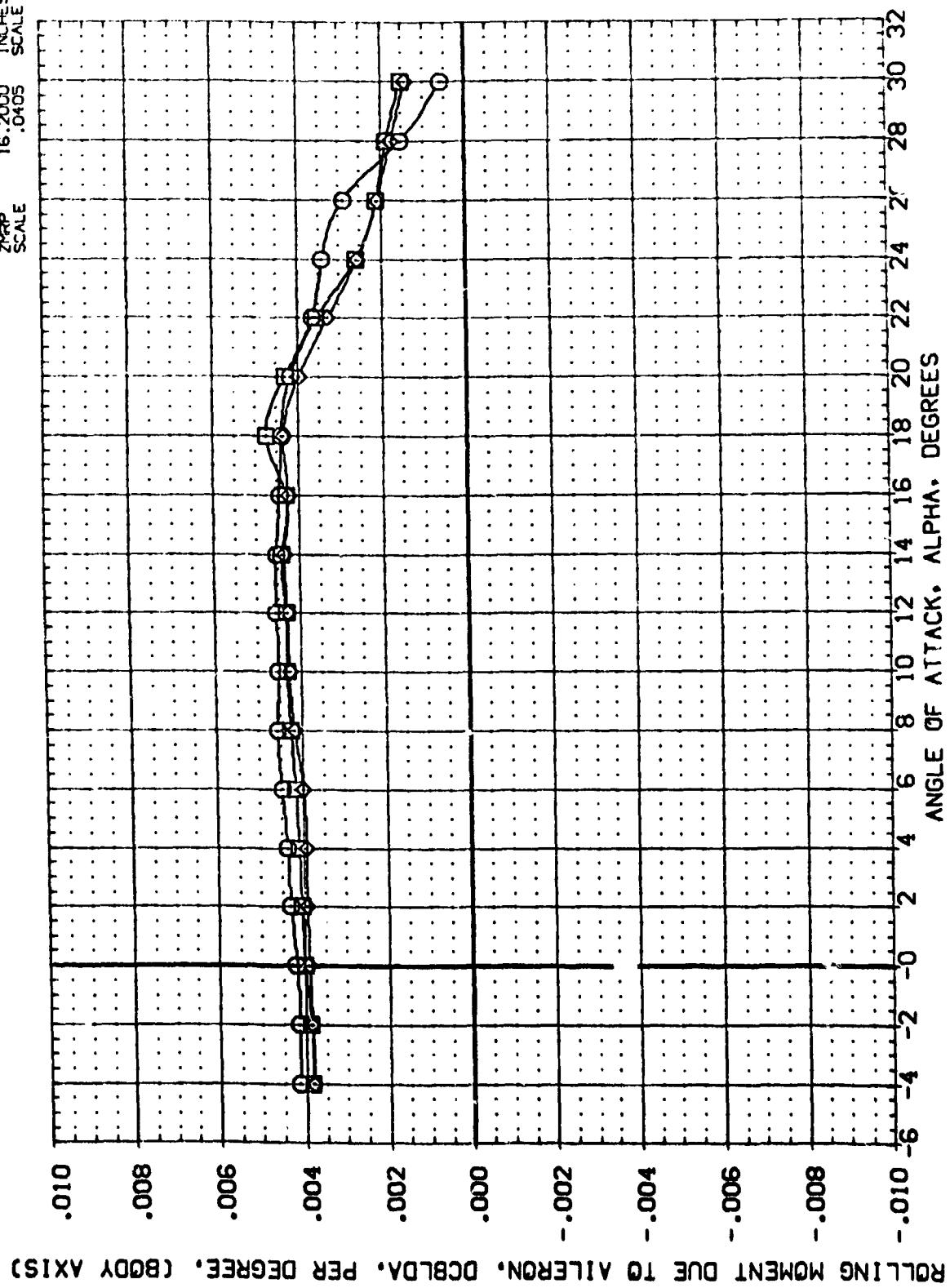
-89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

PAGE

79

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DAILRN	ELEVON	REFERENCE INFORMATION
(CDS411)	0A71A B16CS D7 F1J17W87 E18V3R3X10	.000	5.000	.000	SREF 4.4122 SQ.FT.
(CDS438)	0A71A B16CS D7 F1J17W87 E18V3R3X10	.000	10.000	.000	LREF 19.2299 INCHES
(CDS435)	0A71A B16CS D7 F1J17W87 E18V3R3X10	.000	15.000	.000	BREF 37.9349 INCHES
					XPRP 43.5974 INCHES
					YPRP .0000 INCHES
					ZPRP 16.2000 INCHES
					SCALE .0405



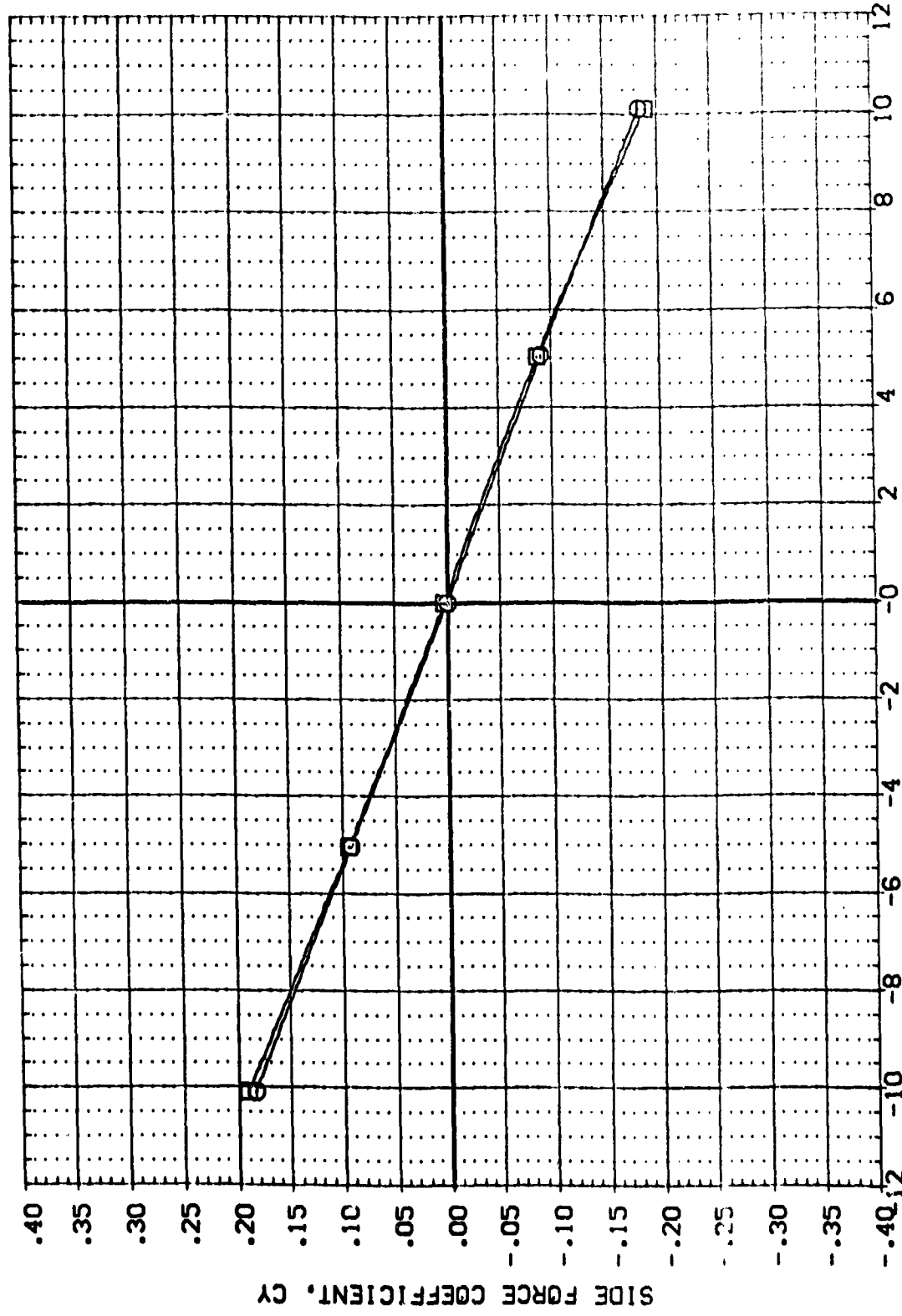
AILERON DERIVATIVE -89B FERRY CONFIGURATION - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RDS002) □ 0A71A B16CS D7 F1 V87E18V3R3X3
 (RDS003) □ 0A71A B16CS D7 F1 V87E18V3R3X3

ALPHA ELEVON AIRLON
 .000 .000 .000
 10.000 .000 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405



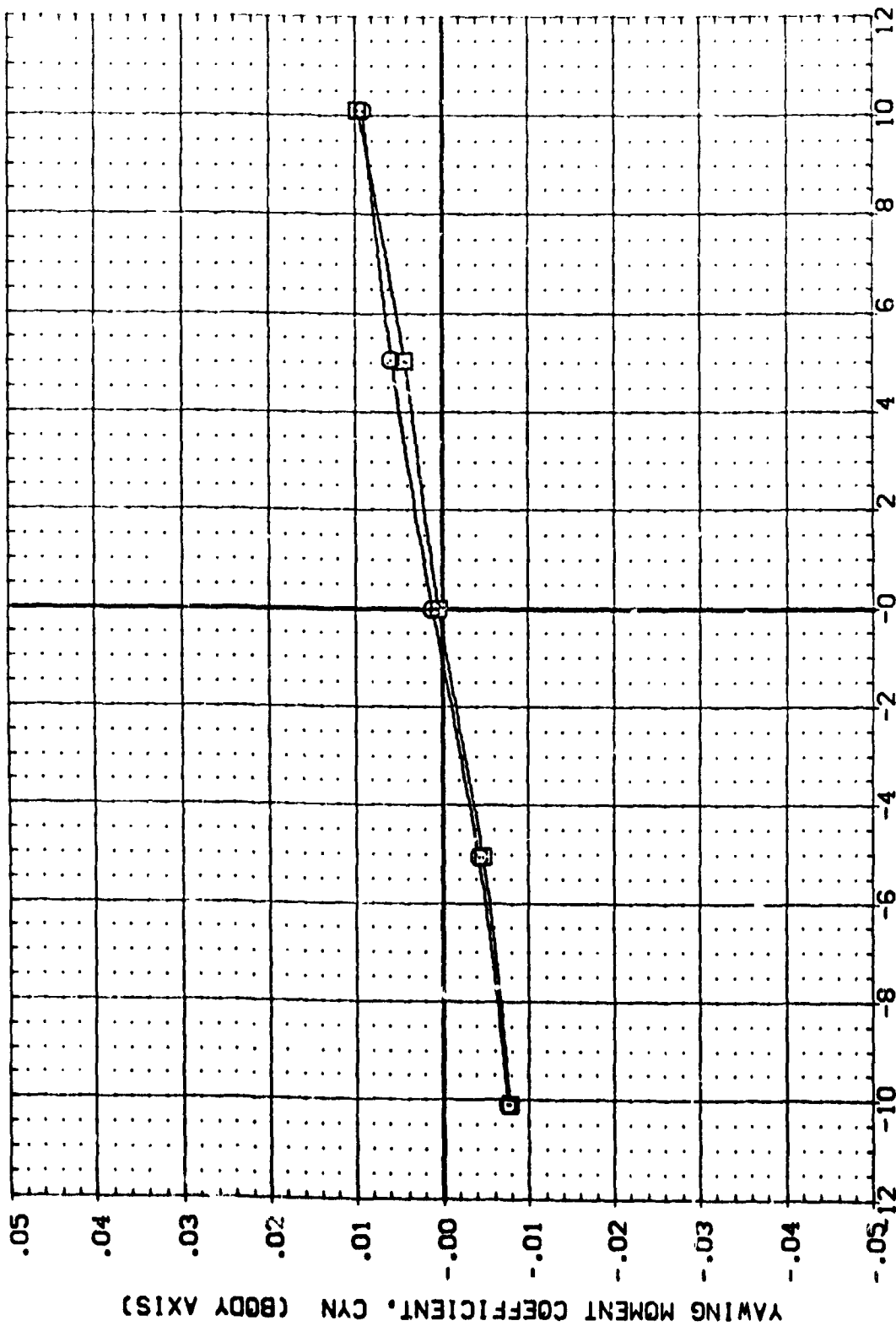
LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (475002) 0A71A B16CS D7 F1 V87E18V3R3X9
 (475003) 0A71A B16CS D7 F1 V87E18V3R3X9

ALPHA ELEVON AIRLON
 .000 .000 .000
 10.000 .000 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2298 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405



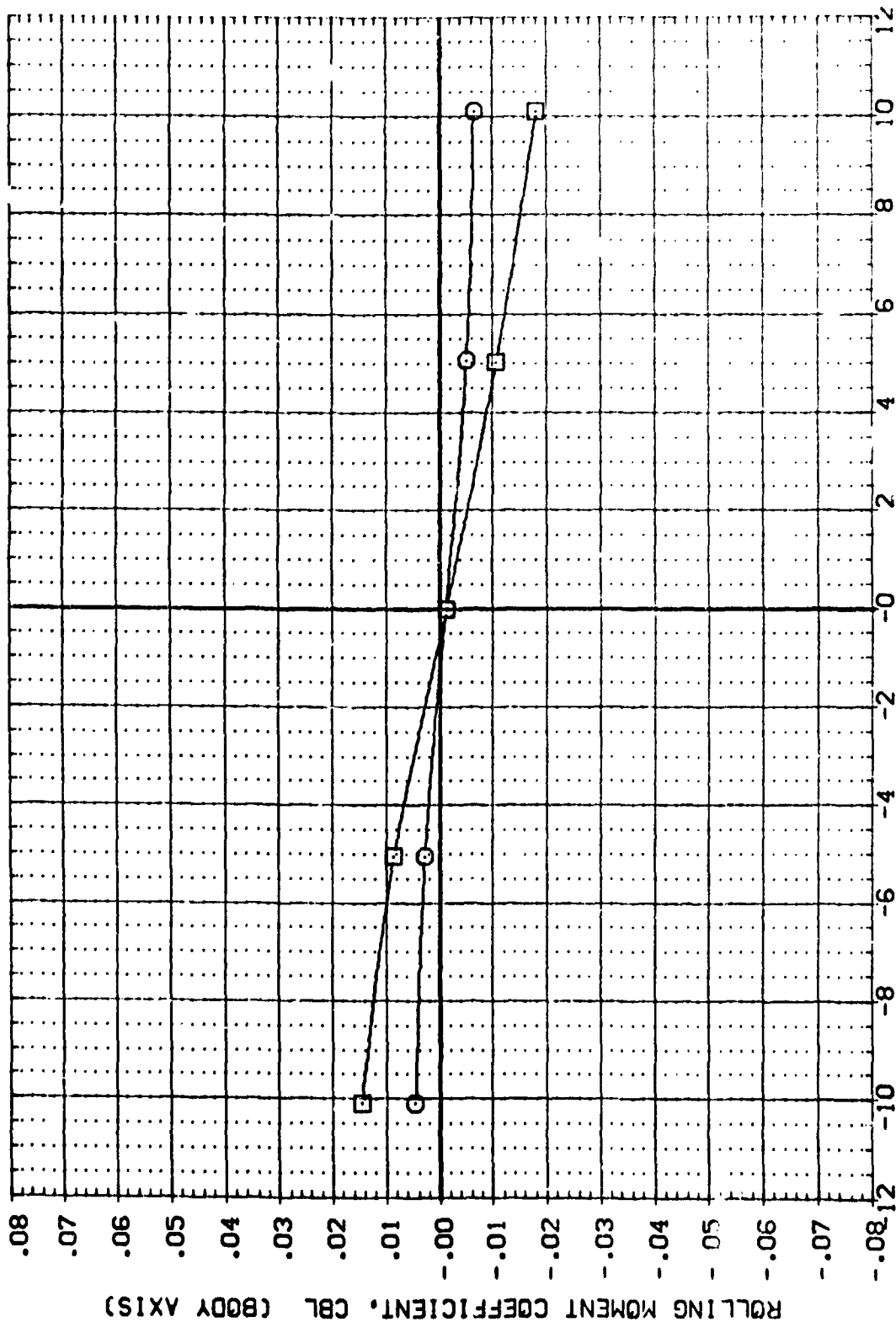
LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - ABPS OFF

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H05002) 0A71A 816CS 07 F1 V87E18V3R3X9
 (H05003) 0A71A 816CS 07 F1 V87E18V3R3X9

ALPHA ELEVON AIRCON
 .000 .000 .000
 10.000 .000 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

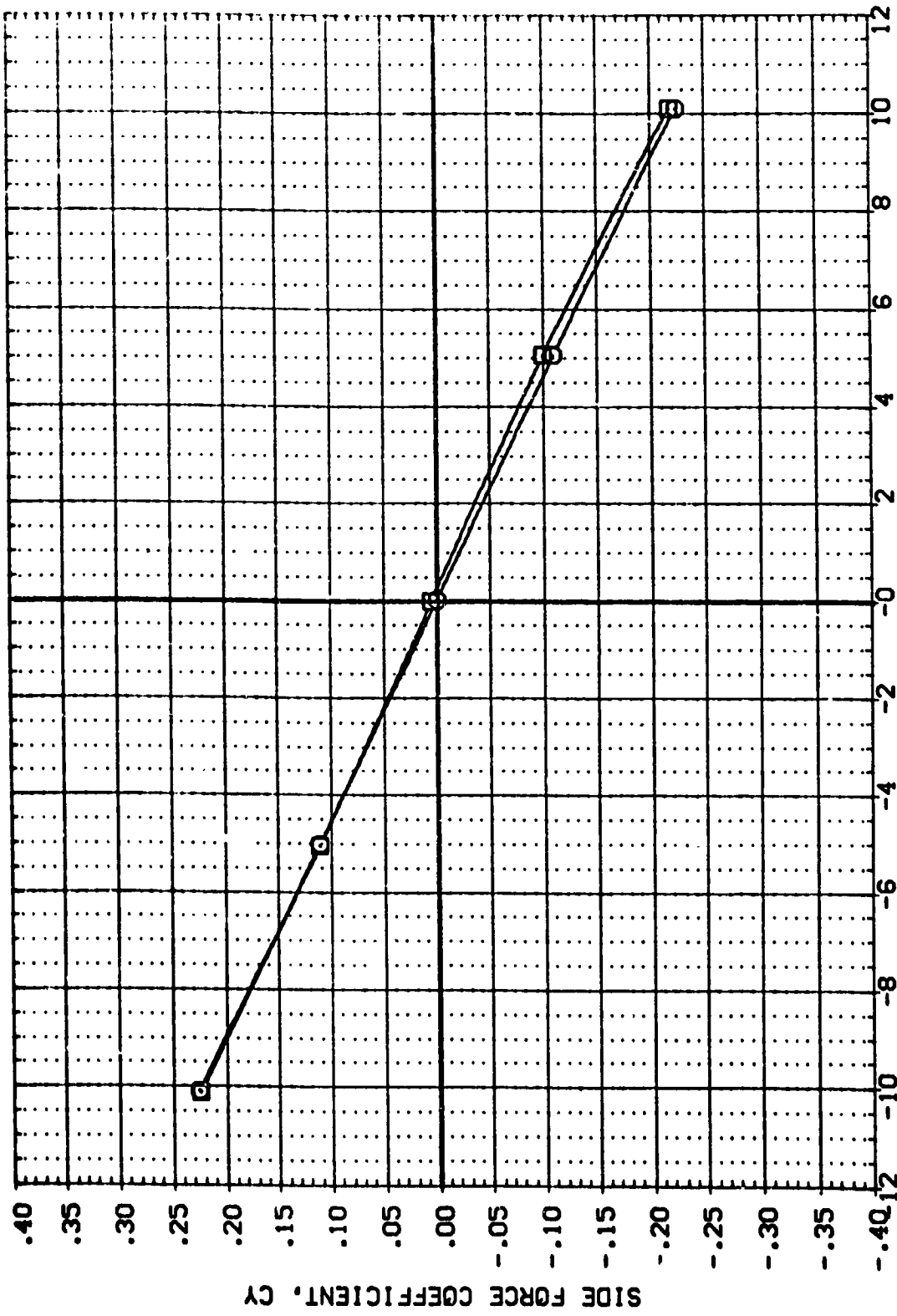


LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - ABPS OFF
 (M)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R05020) 8 0A71A 816CS 07 F1J14W67 E18W32K10
 (R05021) 8 0A71A 816CS 07 F1J14W67 E18W32K10

ALPHA .000
 10.000
 ELEVATION .000
 .000
 AIRLIFT .000
 .000
 MACH .000
 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ. FT.
 LREF 19.2258 INCHES
 BREF 37.9349 INCHES
 XREF 43.5674 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0105 SCALES

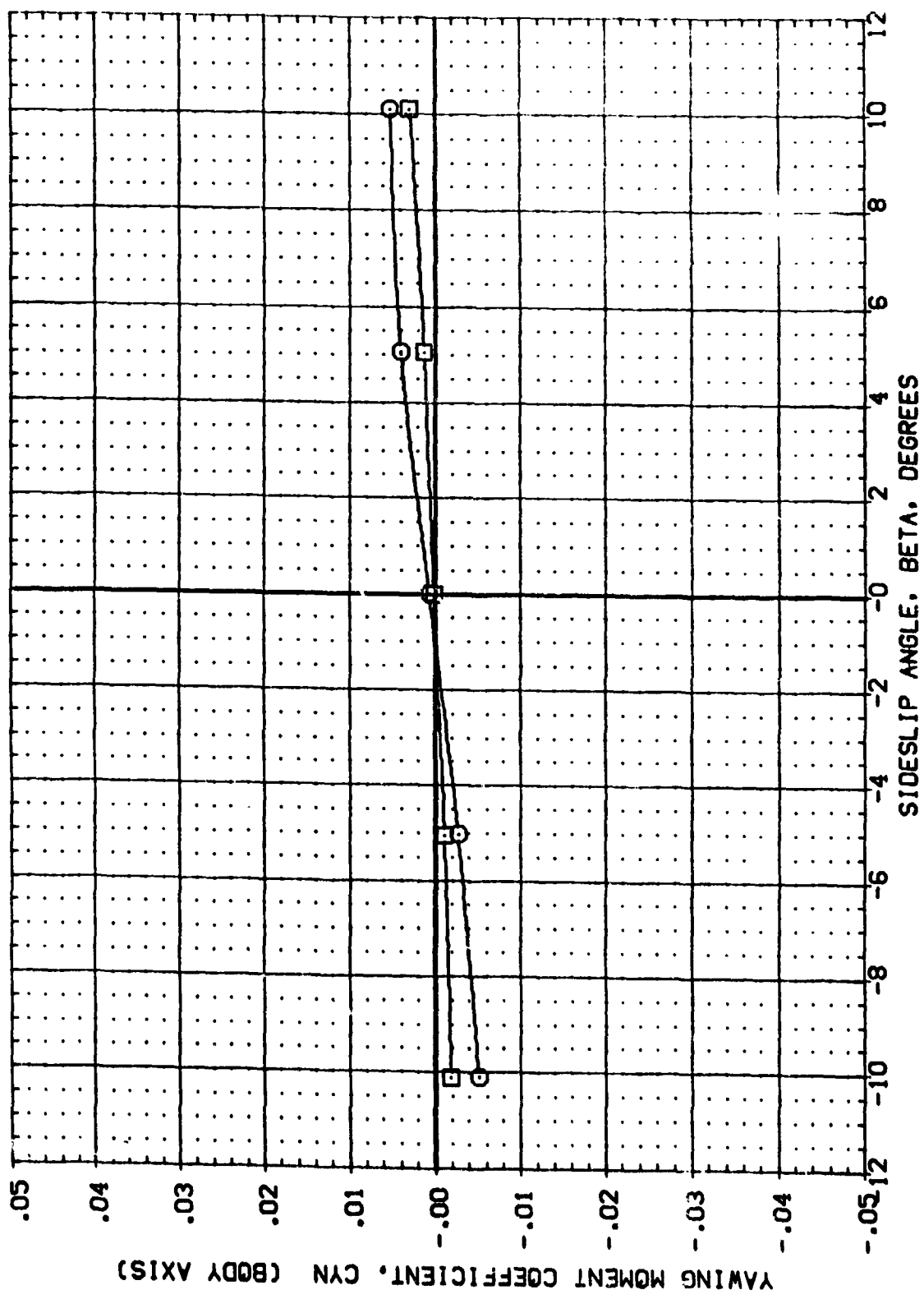


LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J14 ABPS

(A)MACH = 0.20



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ALPHA		ELEVON		AILRON		NACA/L		REFERENCE INFORMATION		
(R05020)	□	0A71A	816C5 D7	F1J14V87	E18V3R3K10	.000	.000	.000	.000	.000	.000	SREF	4.4122	SQ.FT.
(R05021)	□	0A71A	816C5 D7	F1J14V87	E18V3R3K10	10.000	.000	.000	.000	.000	.000	LREF	19.2299	INCHES
												BREF	37.9349	INCHES
												XMRP	43.5874	INCHES
												YMRP	.0000	INCHES
												ZMRP	16.2000	INCHES
												SCALE	.0405	SCALE

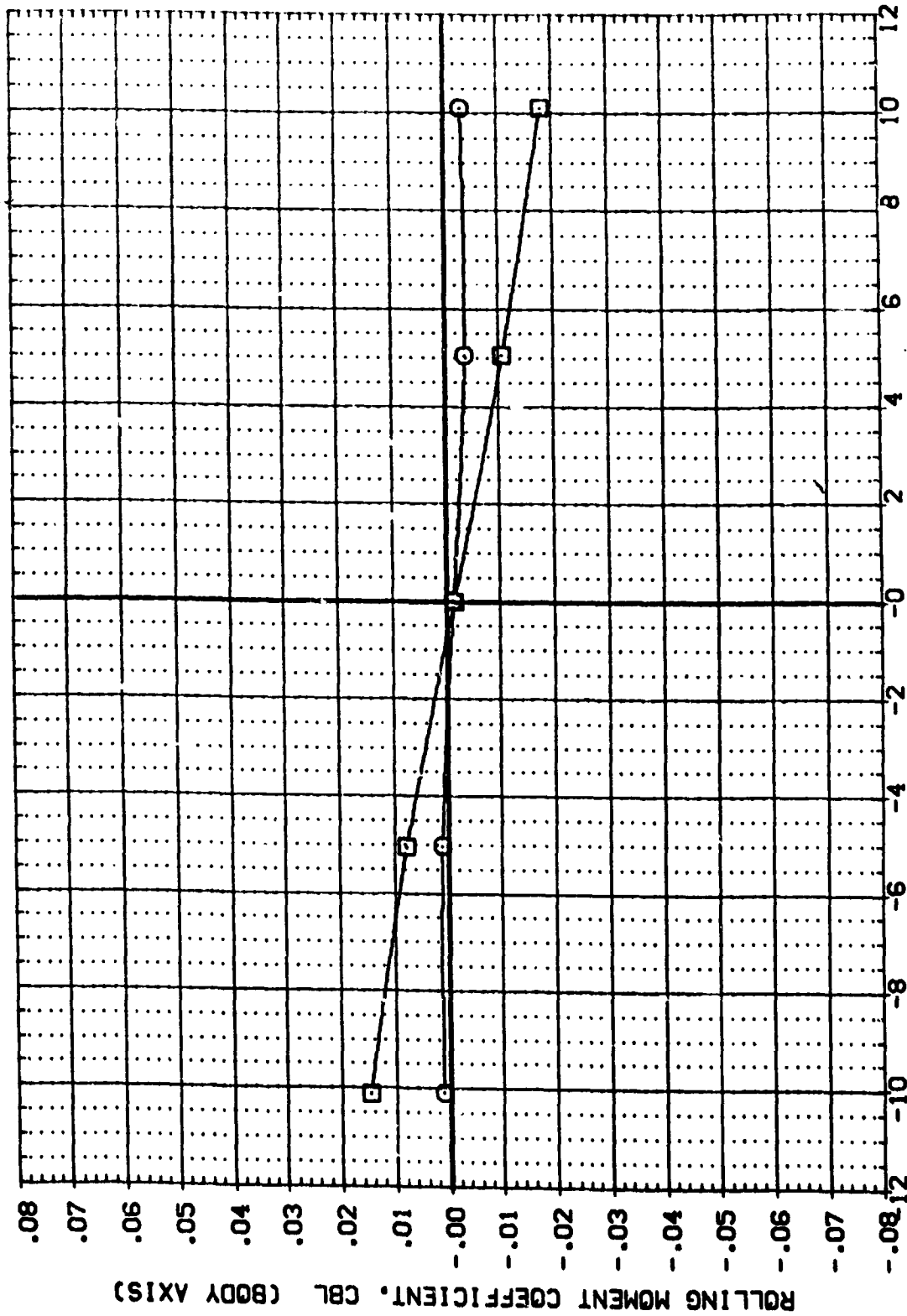


LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J14 ABPS

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R05020) 8 0A71A B16C5 D7 F1J14V87 E18V3KX10
 (R05021) 8 0A71A B16C5 D7 F1J14V87 E18V3KX10

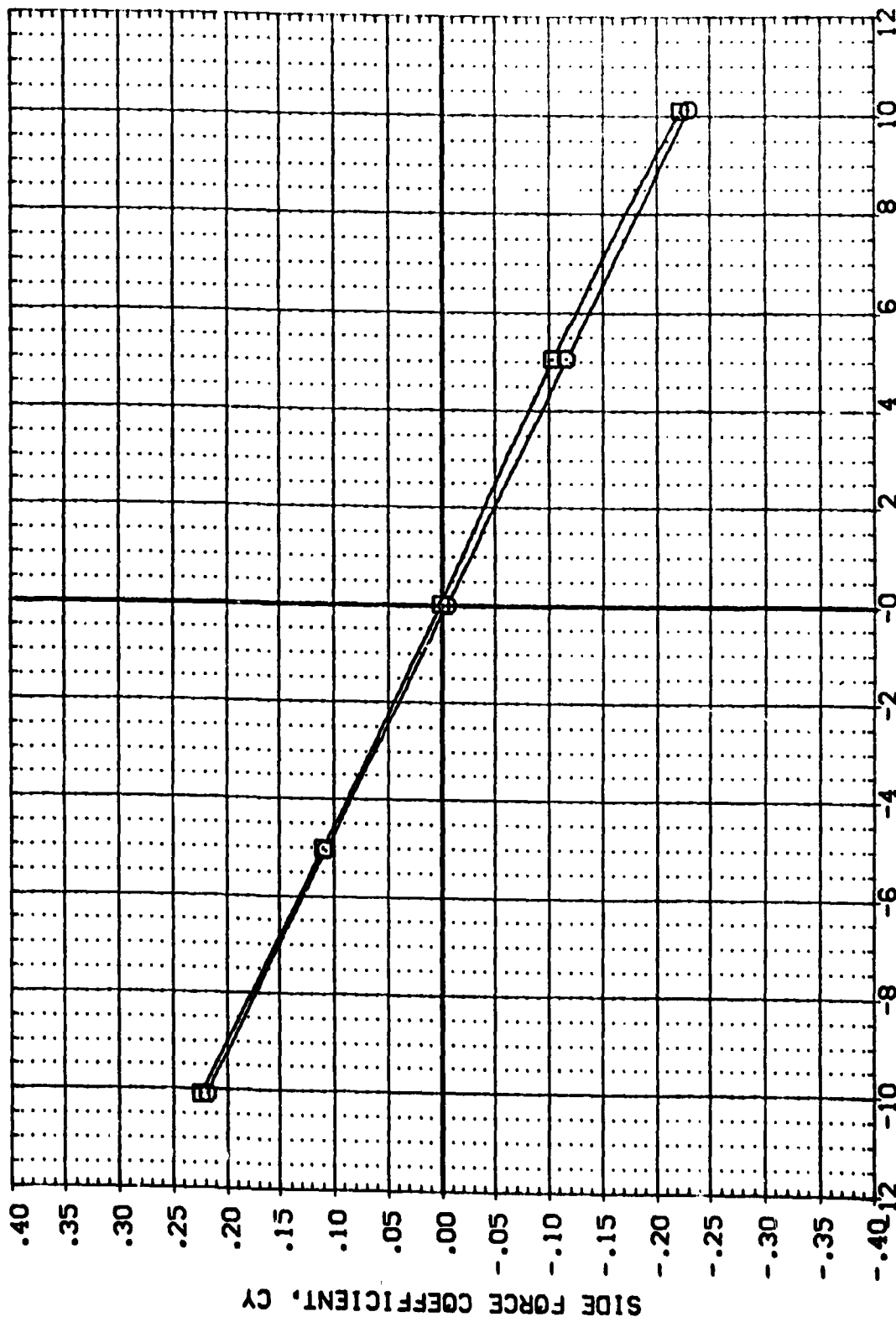
ALPHA .000
 10.000
 REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2298 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405



LATERAL-DIRECTIONAL CHARACTERISTICS -898 FERRY CONFIG. - J14 ABPS

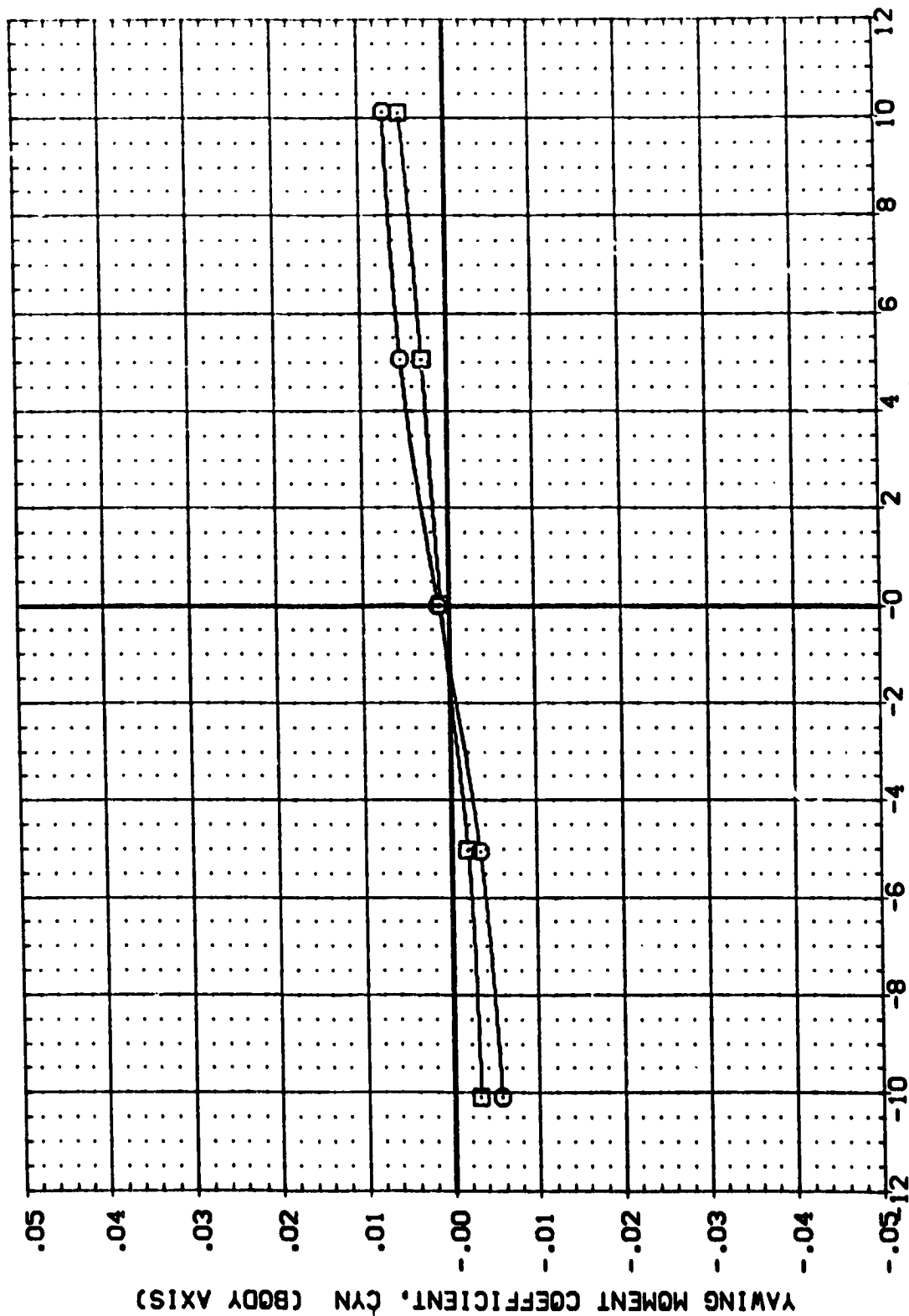
(A)MACH = 0.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	AILERON	MACX/L	REFERENCE INFORMATION
(R05024)	Q71A B16CS 07 F1J14V87 E18V3R3X10	.000	.000	.000	.200	SREF 4.4122 50.FT. INCHES
(R05025)	Q71A B16CS 07 F1J14V87 E18V3R3X10	10.000	.000	.000	.200	LREF 19.2299 INCHES
						BREF 37.9349 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405



LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J14 ABPS MOVED AFT
 (A)MACH = 0.20
 PAGE 87

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	AILERON	NACX/L	REFERENCE INFORMATION
(RDS024)	0A71A B16CS D7 FIJ14V87 E18V3R3X10	.000	.000	.000	.200	SREF 4.4122 50. FT.
(RDS025)	0A71A B16CS D7 FIJ14V87 E18V3R3X10	10.000	.000	.000	.200	LREF 19.2298 INCHES
						BREF 37.5349 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405



LATERAL-DIRECTIONAL CHARACTERISTICS -898 FERRY CONFIG. - J14 ABPS MOVED AFT

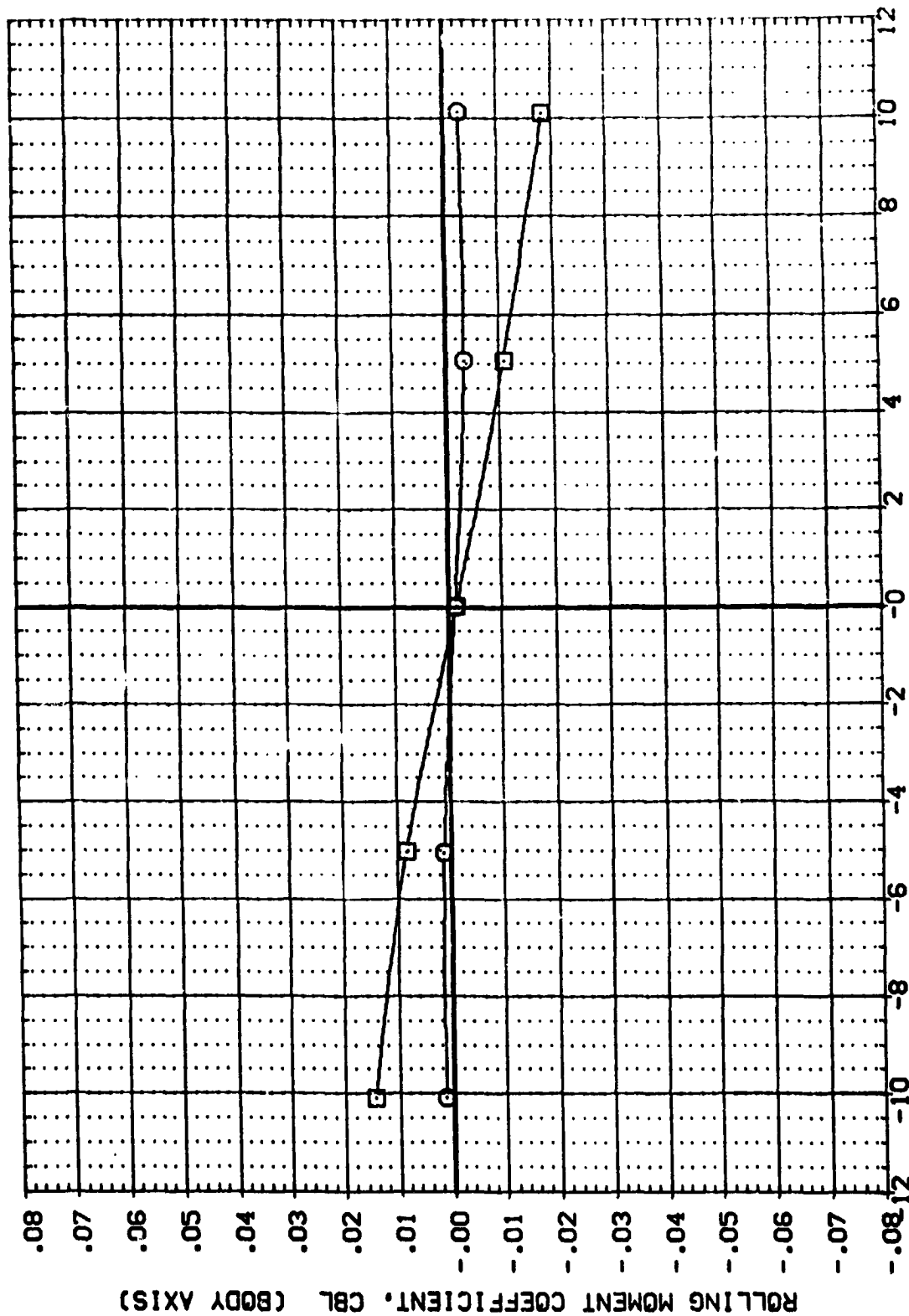
(A)MACH = 0.20

PAGE 88



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(R05024) 8 0A71A B16CS 07 F1J14V87 E18V3R3X10
(R05025) 0A71A B16CS 07 F1J14V87 E18V3R3X10

ALPHA ELEVON AILERON NACA/L REFERENCE INFORMATION
SREF 4.4122 50.FT.
LREF 19.2299 INCHES
BREF 37.9349 INCHES
XMRP 43.5974 INCHES
YMRP 16.0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405

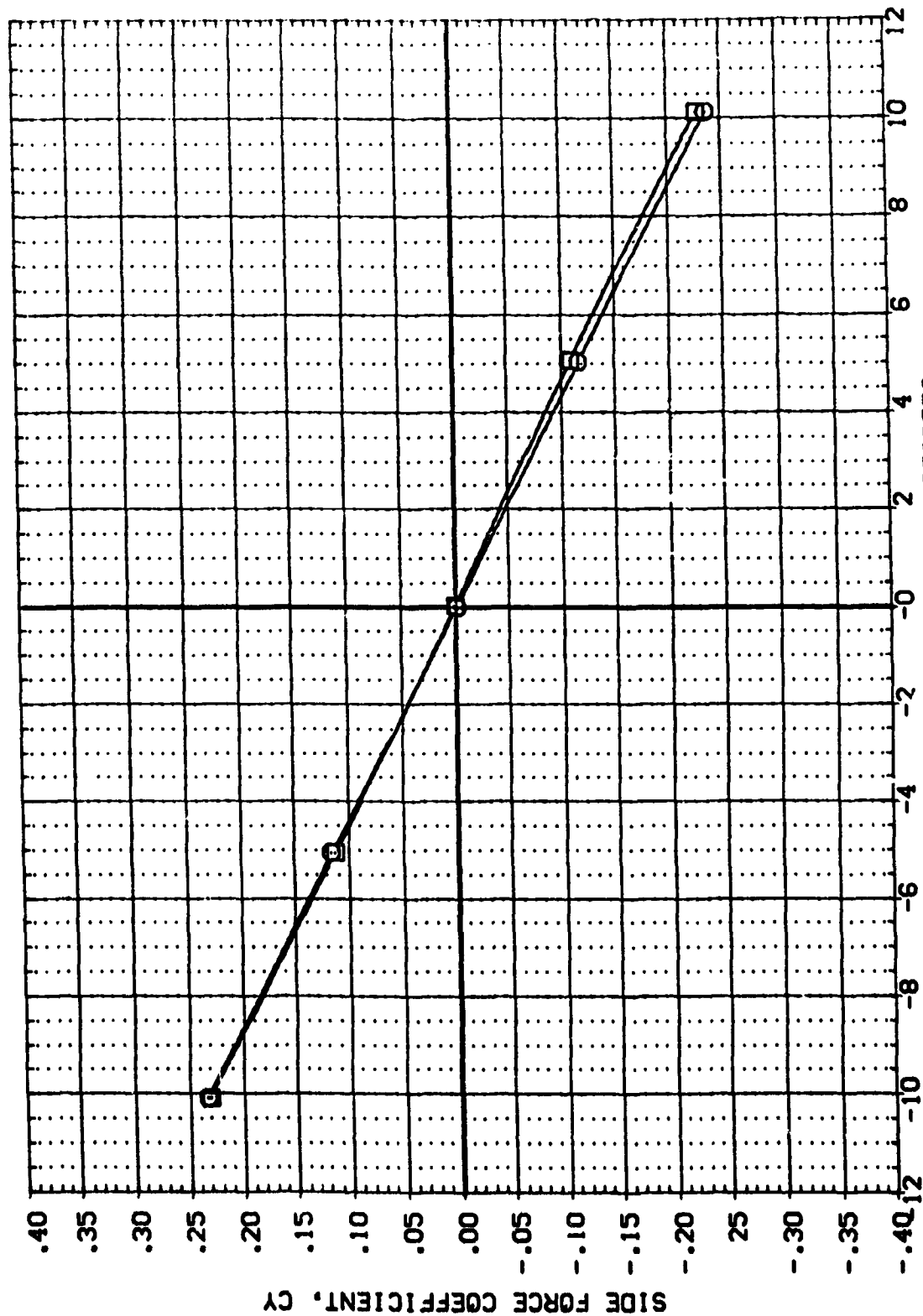


LATERAL-DIRECTIONAL CHARACTERISTICS -898 FERRY CONFIG. - J14 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R05047) □ F1J17067 E18V33X10
 (R05048) □ F1J17067 E18V33X10

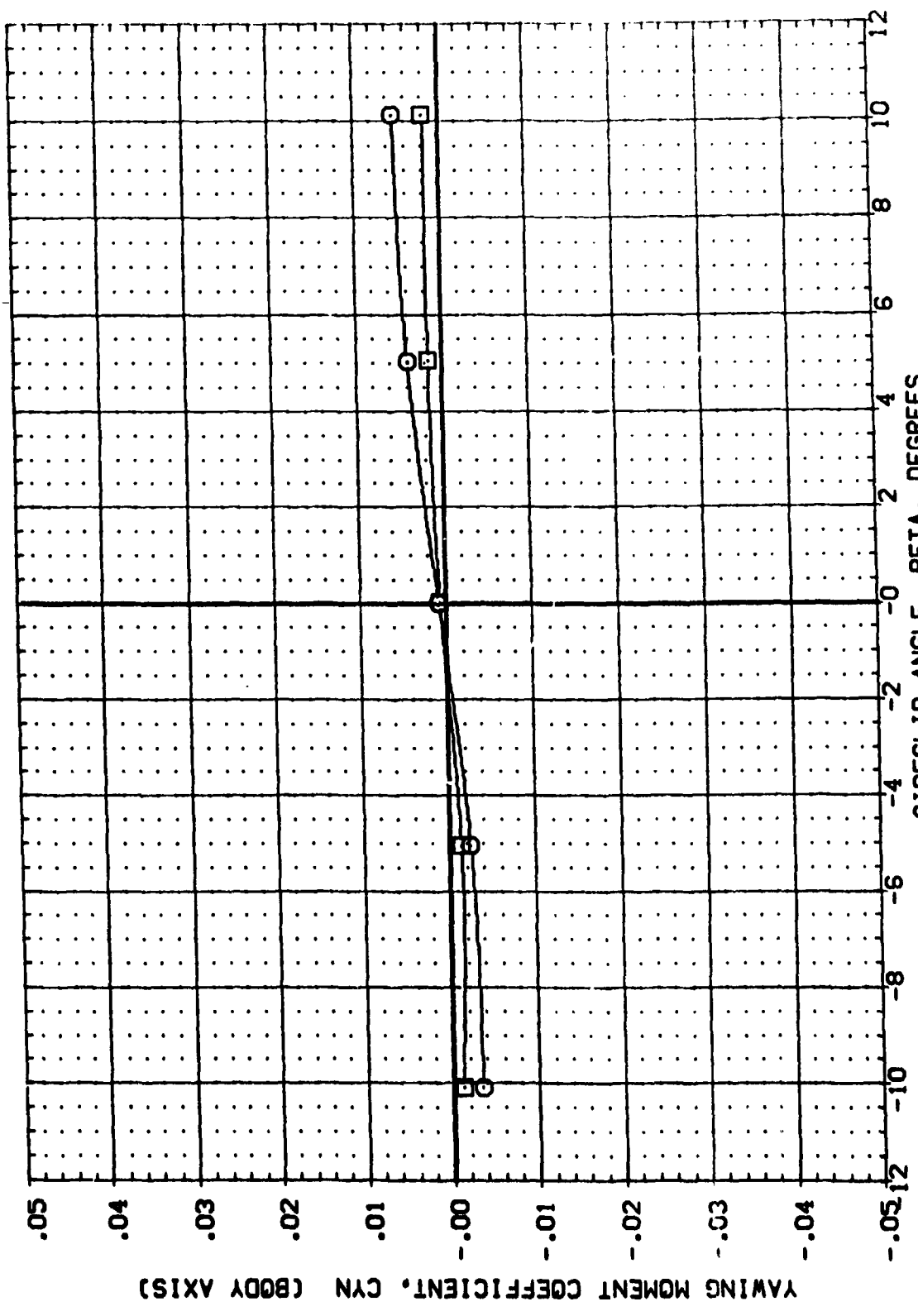
ALPHA ELEVON AILRON NACA/L REFERENCE INFORMATION
 10.000 .000 .000 .000
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.5349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE



LATERAL-DIRECTIONAL CHARACTERISTICS -898 FERRY CONFIG. - J17 ABPS

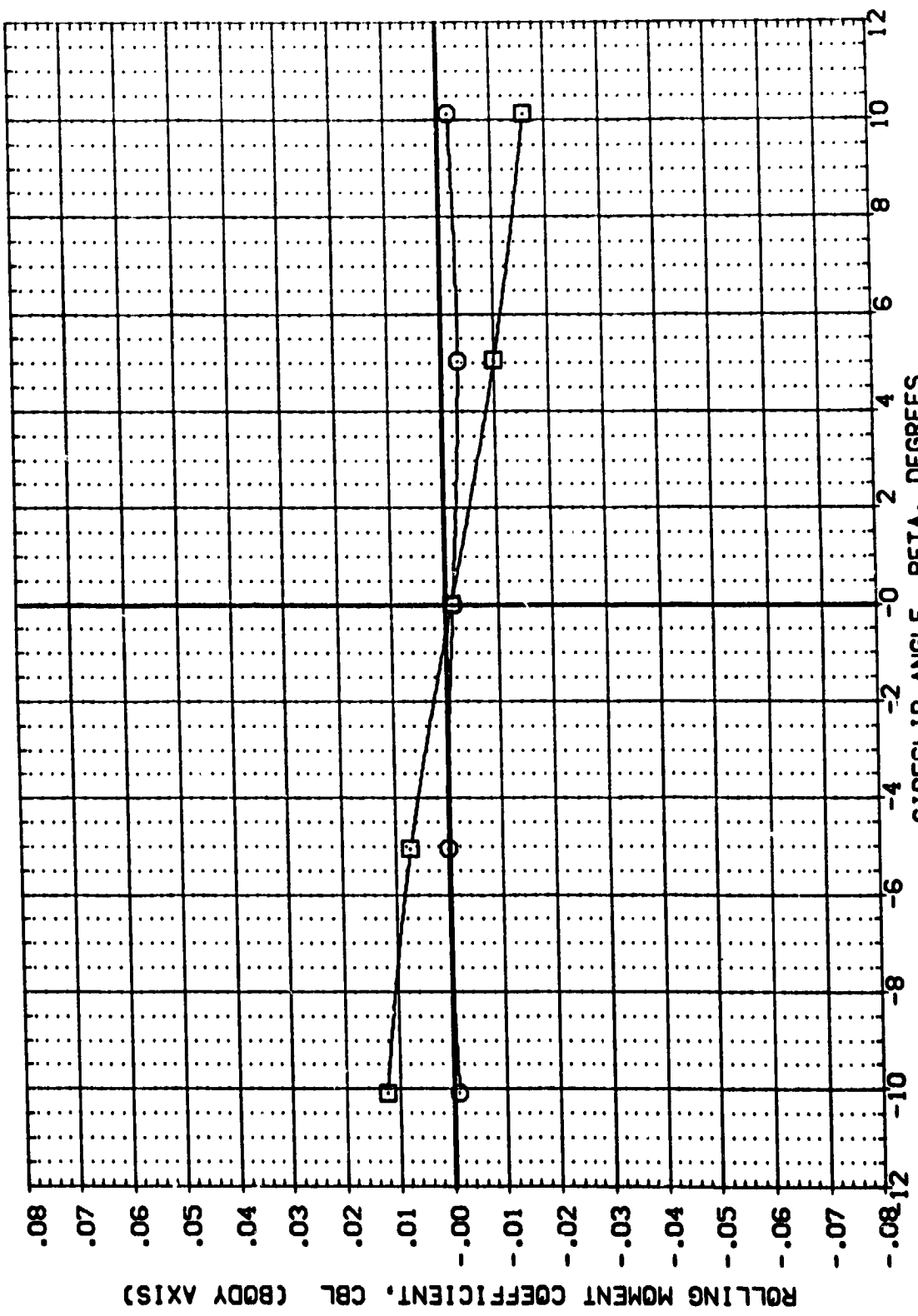
(M)MACH = 0.20

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(RDS047)	8	QA71A	B16CS 07 F1J17W87 E18V3K3X10	SREF	4.4122 SQ.FT.
(RDS048)	8	QA71A	B16CS 07 F1J17W87 E18V3K3X10	LREF	19.2258 INCHES
				BREF	37.9349 INCHES
				XMRP	43.5974 INCHES
				YMRP	16.2000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405



LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J17 ABPS
 (A)MACH = 0.20
 PAGE 91

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	AILTRON	NACVAL	REFERENCE INFORMATION
(RDS047)	0A71A 816CS 07 F1J17V87 E18V3K3X10	.000	.000	.000	.000	SREF 4.4122 SQ.FT.
(RDS048)	0A71A 816CS 07 F1J17V87 E18V3K3X10	10.000	.000	.000	.000	LREF 19.2255 INCHES
						BREF 37.9349 INCHES
						XTRP 43.5974 INCHES
						YTRP .0000 INCHES
						ZTRP 16.2000 INCHES
						SCALE .0405



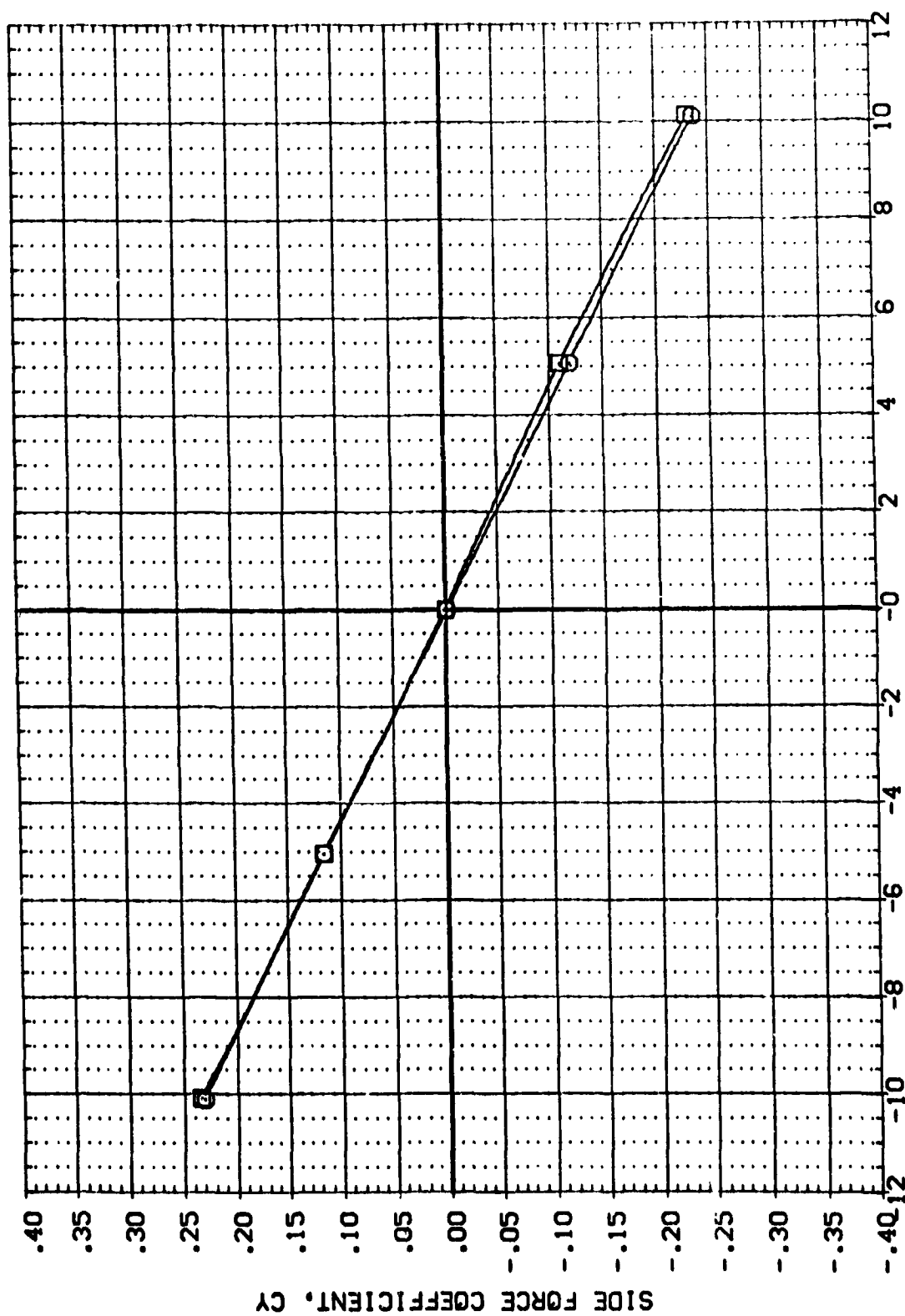
LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J17 ABPS

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RUS044) □ 0A71A B18C5 D7 F1J17V67 E18V3R3X10
 (RUS045) □ 0A71A B18C5 D7 F1J17V67 E18V3R3X10

ALPHA ELEVON AILRON NACX/L
 .000 .000 .000 .200
 10.000 .000 .000 .200

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2239 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES



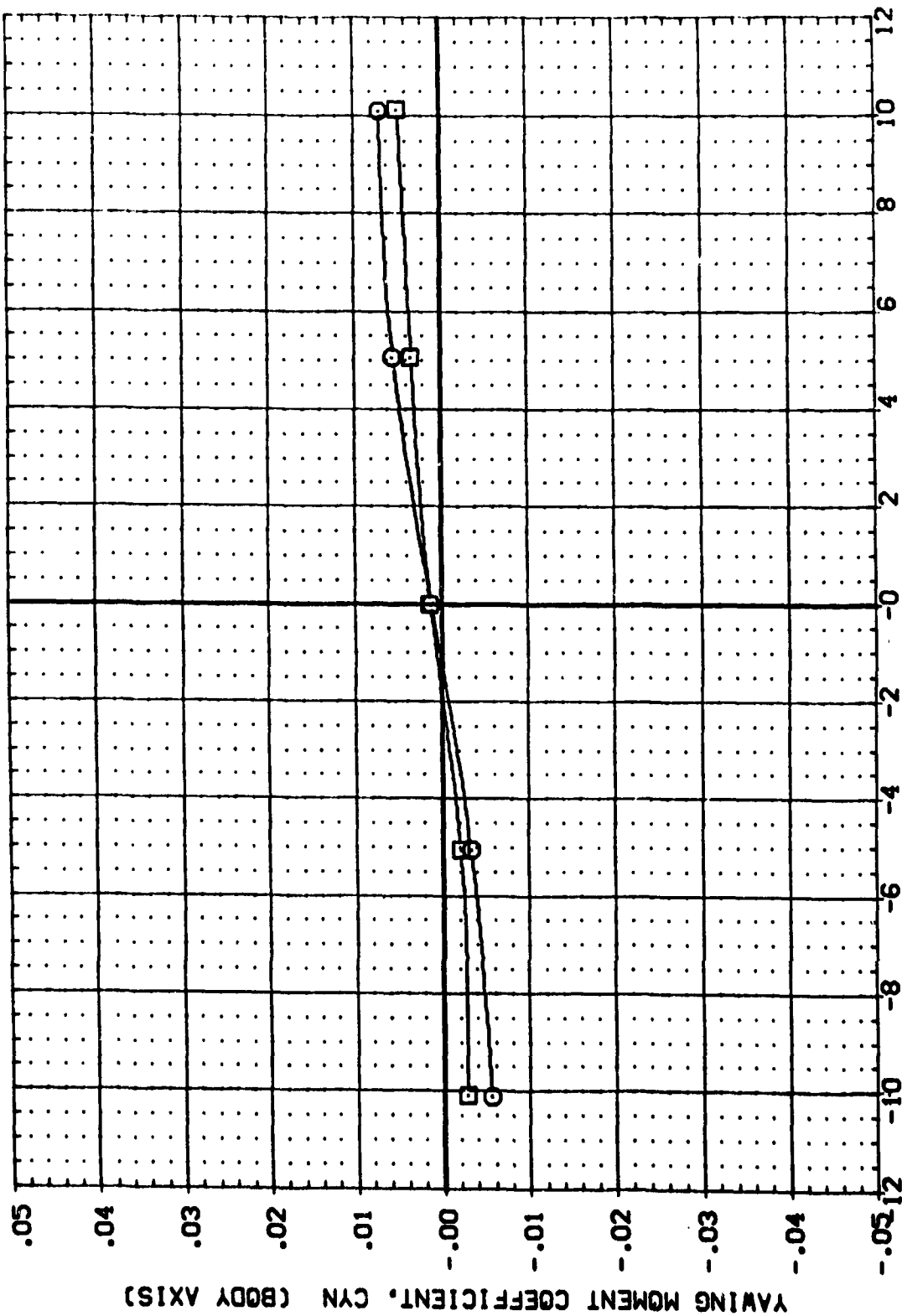
SIDESLIP ANGLE, BETA, DEGREES

LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R05044) 0171A BIGCS D7 FIJ17V87 E18V3R3K10
 (R05045) 0171A BIGCS D7 FIJ17V87 E18V3R3K10

ALPHA ELEVON AIRLON NACA/L REFERENCE INFORMATION
 .000 .000 .000 SREF 4.4122 SQ.FT.
 10.000 .000 .000 LREF 19.2259 INCHES
 XMRP 37.9349 INCHES
 YMRP 43.5974 INCHES
 ZMRP .0000 INCHES
 SCALE 16.2000 INCHES
 .0405 SCALE

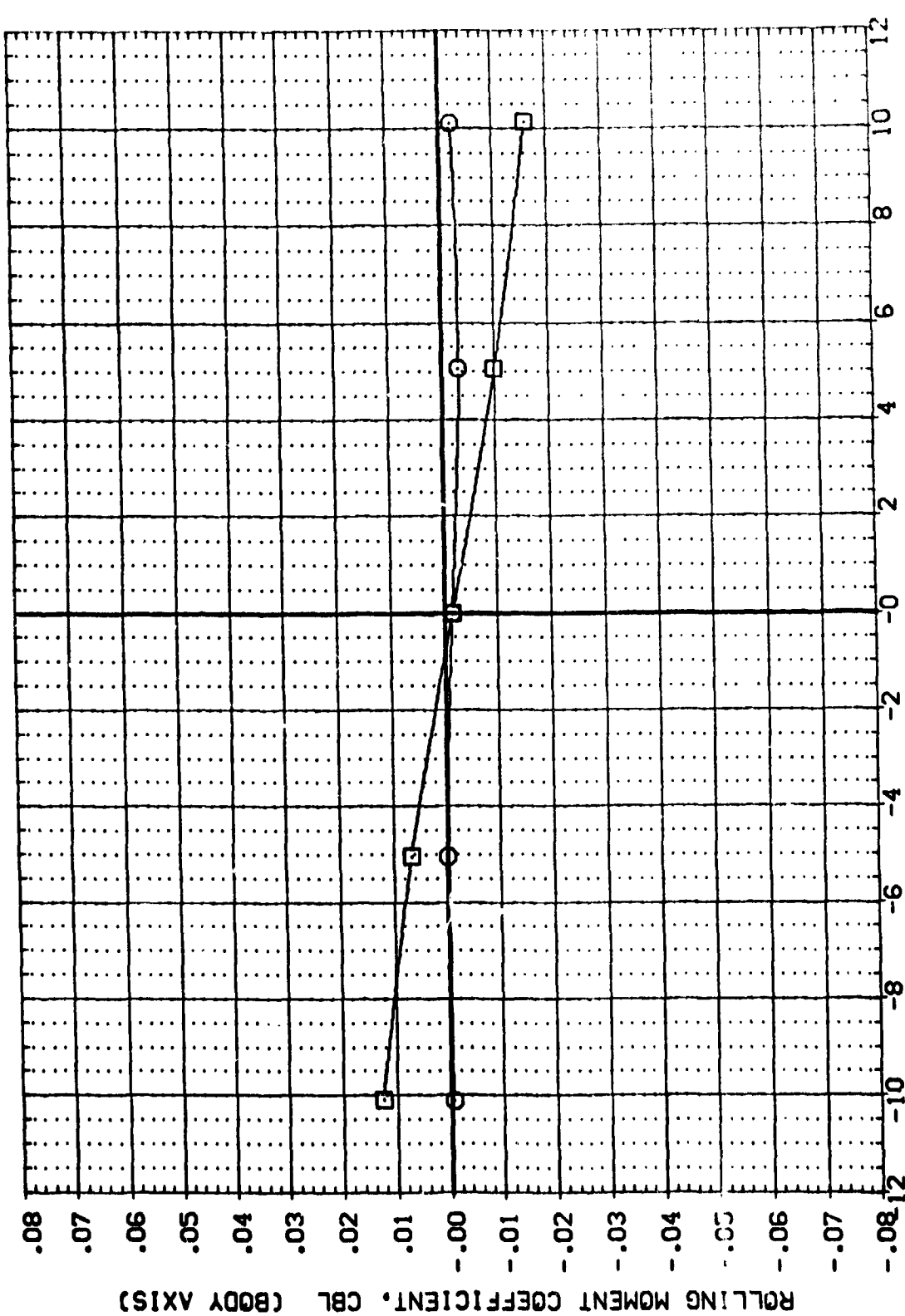


LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J17 ABPS MOVED AFT

(A)MACH = 0.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R05044) □ 0A71A B16CS D7 F1J17V67 E18V3R3X10
 (R05045) □ 0A71A B16CS D7 F1J17V67 E18V3R3X10

ALPHA ELEVON AILRON NACX/L REFERENCE INFORMATION
 .000 .000 .000 .200 SREF 4.4122 SQ.FT.
 10.000 .000 .000 .200 LREF 19.2259 INCHES
 .000 .000 .000 .000 BREF 37.9349 INCHES
 .000 .000 .000 .000 XPRP 43.5974 INCHES
 .000 .000 .000 .000 YPRP 16.0000 INCHES
 .000 .000 .000 .000 ZPRP 16.2000 INCHES
 .000 .000 .000 .000 SCALE .0405 SCALE



LATERAL-DIRECTIONAL CHARACTERISTICS -89B FERRY CONFIG. - J17 ABPS MOVED AFT
 (A)MACH = 0.20
 SIDESLIP ANGLE, BETA, DEGREES
 PAGE 95

APPENDIX
TABULATED SOURCE DATA

Plotted data listings are available on
request from Data Management System.

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 706 OA71A

PAGE 1

OA71A B16C5 D7 F1 W8TE18V8R3X9

(RDS001) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 90.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BDFLAP = -10.000
 ELEV = .000 AILRON = .000
 VTINC = .000 RUDDER = .000
 SPDRK = .000

RUN NO. 1/ 0 FN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.070	-.07020	.02680	.00800	-.10890	.01920	.00120	-.00120	-.00200	.68600	.01407
.201	-2.000	-.01350	.02300	.00770	-.01430	.02237	.00100	-.00120	-.00200	.83300	.01540
.201	-.970	.03750	.02240	.00790	.03710	.02312	.00100	-.00140	-.00100	.58300	.01828
.201	.070	.08280	.02460	.00800	.08280	.02451	.00090	-.00100	-.00100	.62500	.01466
.201	1.060	.12990	.02580	.00810	.13040	.02334	.00070	-.00130	.00000	.63700	.01922
.201	2.110	.17830	.02790	.00840	.17930	.02134	.00070	-.00120	.00000	.64500	.01507
.201	4.170	.27310	.03420	.00810	.27490	.01424	.00060	-.00130	.00000	.64900	.01575
.201	6.250	.36530	.04490	.00690	.36820	.00466	.00040	-.00140	.00100	.65300	.01484
.201	8.320	.46580	.06120	.00690	.46960	-.00780	.00030	-.00110	.00200	.65400	.01574
.201	10.370	.56770	.08300	.00690	.57330	-.02058	.00060	-.00060	.00200	.65500	.01615
.201	12.470	.68060	.11450	.00270	.68930	-.03522	.00010	-.00110	.00200	.65800	.01749
.201	14.570	.80200	.15840	-.00450	.81600	-.04845	.00050	-.00190	.00200	.66100	.01858
.201	16.650	.92470	.22330	-.01550	.94990	-.05112	.00120	-.00060	.00200	.66500	.02316
.201	18.720	1.01920	.29300	-.02120	1.05940	-.04970	.00110	.00000	.00300	.66700	.02674
.201	20.830	1.13710	.38470	-.03710	1.19960	-.04490	.00210	-.00240	.00500	.67100	.03018
.201	22.900	1.21560	.46480	-.03780	1.30070	-.04502	.00370	-.00710	.01200	.67000	.03310
.201	24.970	1.26640	.53500	-.02520	1.37390	-.04980	.00340	-.00820	.00600	.66600	.03981
.201	26.950	1.16530	.54200	.02980	1.28440	-.04497	.00310	.00120	-.00200	.65100	.03118
.201	28.890	1.11330	.57190	.03840	1.25100	-.03720	.00230	.00490	-.00000	.64300	.06082
.201	30.910	1.10410	.62120	.06820	1.26640	-.03423	.00120	.00280	.00100	.64000	.06486
GRADIENT		.04820	.00099	.00005	.04663	-.00051	-.00008	-.00001	.00030	-.01189	.00012

OA71A B16C5 D7 F1 W8TE18V8R3X9

(RDS002) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 90.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

ALPHA = .000 BDFLAP = -10.000
 ELEV = .000 AILRON = .000
 VTINC = .000 RUDDER = .000
 SPDRK = .000

PARAMETRIC DATA

RUN NO. 2/ 0 FN/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.090	.09460	.01470	-.00360	.09660	.01461	-.00760	.00460	.00400	.67300	.01767
.201	-5.050	.08770	.02080	.00360	.08770	.02013	-.00420	.00200	.00200	.64500	.01619
.201	.000	.08210	.02480	.00340	.08220	.02473	.00110	-.00120	.00000	.62200	.01495
.201	5.050	.08550	.02040	.00330	.08550	.02037	.00050	-.00050	-.00000	.64500	.01683
.201	10.100	.09180	.01210	-.00420	.09180	.01203	.00010	-.00050	-.00000	.67600	.02030
GRADIENT		-.00022	-.00004	-.00001	-.00022	-.00004	.00098	-.00078	-.00002	.00001	.00004

DATE 19 NOV 75

TABULATED SOURCE DATA - NAL T08 C 1A

PAGE 2

OAT1A B16C5 D7 F1 WATC18V3R3Y9

(R03003) (10 OCT 75)

REFERENCE DATA

REF = 4.4122 88.FT. XREF = 43.9974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9349 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDRK = .000

RUN NO. 3/ 0 RV/L = 1.44 GRADIENT INTERVAL = -8.00/ 8.00

WACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CDL	CY	XCP/L	CAB
.E01	-10.110	.97990	.07740	-.00350	.58440	-.02839	-.00720	.01460	.19100	.66300	.02026
.E01	-9.080	.57160	.08100	.00120	.57690	-.02353	-.00470	.02650	.09400	.65900	.01700
.E01	-.010	.57100	.08440	.00360	.57690	-.02008	.00040	-.00130	.00300	.65600	.01651
.E01	9.040	.57040	.08280	.00090	.57690	-.02196	.00450	-.01070	-.06700	.65900	.01769
.E01	10.080	.57390	.07750	-.00490	.57610	-.02734	.00960	-.01820	-.19000	.66300	.02074
GRADIENT	-.00012	.00018	.00018	-.00003	-.00009	.00016	.00069	-.00190	-.01794	.00000	.00007

OAT1A B16C5 D7 F1 WATC18V3R3Y9

(R03004) (10 OCT 75)

REFERENCE DATA

REF = 4.4122 88.FT. XREF = 43.9974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9349 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDRK = .000

RUN NO. 4/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CDL	CY	XCP/L	CAB
.E01	-4.010	.00460	.02920	-.04280	.00290	.02347	.00120	-.00130	-.00200	9.91600	.01767
.E01	-1.940	.09940	.02560	-.04390	.09950	.02897	.00110	-.00130	.00000	.81900	.01807
.E01	-.910	.14700	.02750	-.04420	.14660	.02966	.00080	-.00120	.00000	.76700	.01790
.E01	.110	.19350	.02970	-.04370	.19350	.02935	.00090	-.00130	.00000	.74000	.01769
.E01	1.140	.24160	.03300	-.04420	.24220	.02821	.00090	-.00130	.00000	.72500	.01763
.E01	2.200	.26660	.03660	-.04420	.26960	.02352	.00070	-.00130	.00000	.71400	.01815
.E01	4.240	.37660	.04660	-.04350	.38100	.01873	.00060	-.00140	.00100	.70000	.01700
.E01	6.350	.47430	.06020	-.04420	.47600	.01764	.00050	-.00110	.00100	.69300	.01790
.E01	8.390	.57010	.07970	-.04440	.57570	-.01437	.00030	-.00090	.00000	.64700	.01740
.E01	10.480	.67630	.10770	-.04630	.68000	-.01726	.00020	-.00090	.00000	.64000	.01764
.E01	12.930	.79070	.14260	-.04960	.80290	-.03227	.00010	-.00120	.00000	.64200	.01953
.E01	14.630	.91280	.19090	-.05610	.93140	-.04567	.00000	-.00120	.00000	.64200	.02106
.E01	16.750	1.03170	.26420	-.07000	1.06410	-.04404	.00000	-.00140	.00000	.64300	.02467
.E01	18.920	1.12770	.34660	-.08110	1.17990	-.03369	.00000	-.00120	.00000	.64000	.03012
.E01	20.920	1.24900	.43630	-.09340	1.31670	-.03719	.00000	-.00120	.00000	.64000	.03404
.E01	22.960	1.35620	.52540	-.09400	1.43710	-.03882	.00000	-.00120	.00000	.64000	.03660
.E01	25.040	1.56410	.56620	-.06880	1.46480	-.04450	.00000	-.00120	.00000	.64000	.04360
.E01	26.940	1.16360	.59940	-.01290	1.31670	-.03761	.00000	-.00120	.00000	.64000	.04570
.E01	28.920	1.14260	.59510	.03360	1.26810	-.03181	.00000	-.00120	.00000	.64000	.05790
.E01	30.940	1.13590	.64730	.04370	1.30710	-.02896	.00000	-.00120	.00000	.64000	.06444
GRADIENT	-.04544	.00263	.00263	-.00006	.04594	-.00082	-.00007	-.00001	.00000	-.40772	-.00006

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 QAT1A

PAGE 3

QAT1A 816C5 D7 F1 WATE18V3R3R9

(R05005) (10 OCT 73)

REFERENCE DATA

BRZF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BRZF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA =
 ELEVCH =
 VTLINE =
 SPDGRK =

.000 BOFLAP = -18.000
 .000 ALLRON = 5.000
 .000 RUDDER = .000
 .000

PARAMETRIC DATA

RUN NO. 5/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.070	-.10510	.02720	.00640	-.10680	.01973	.00450	.01900	-.02000	.68100	.01576
.201	-2.010	-.01110	.02450	.00620	-.01190	.02415	.00490	.01960	-.02100	.64600	.01637
.201	-.960	.03660	.02480	.00640	.03630	.02352	.00500	.01970	-.02200	.59900	.01580
.201	.060	.08790	.02520	.00680	.04600	.02516	.00500	.02000	-.02200	.63200	.01636
.201	1.060	.13260	.02730	.00680	.13330	.02460	.00510	.02030	-.02200	.64100	.01579
.201	2.100	.18130	.02670	.00720	.18220	.02201	.00510	.02050	-.02300	.64500	.01683
.201	4.170	.27450	.03610	.00720	.27640	.01604	.00530	.02070	-.02400	.65000	.01616
.201	6.250	.37190	.04660	.00680	.37480	.00562	.00540	.02110	-.02500	.65300	.01642
.201	8.340	.46660	.06280	.00660	.47290	-.00561	.00560	.02130	-.02500	.65400	.01642
.201	10.400	.57300	.08590	.00610	.57900	-.01933	.00570	.02170	-.02700	.65600	.01714
.201	12.480	.66570	.11720	.00270	.69490	-.03375	.00590	.02230	-.03000	.65800	.01637
.201	14.560	.80320	.16020	-.00330	.81770	-.04716	.00670	.02150	-.03100	.66100	.01921
.201	16.650	.92370	.22330	-.01440	.94900	-.09056	.00850	.02510	-.03700	.66500	.02163
.201	18.730	1.02620	.29660	-.02400	1.06970	-.04764	.00570	.02260	-.02900	.66800	.02563
.201	20.830	1.13990	.36460	-.03620	1.20120	-.04544	.00550	.02010	-.03000	.67100	.03036
.201	22.910	1.22000	.46170	-.03530	1.30350	-.04964	.00360	.01430	-.01900	.66900	.03319
.201	24.990	1.26660	.54230	-.03050	1.39720	-.03210	.00290	.00650	-.01200	.66700	.03922
.201	26.910	1.19610	.55290	.02570	1.31680	-.04850	.00590	.00250	-.00600	.65300	.05072
.201	28.900	1.10990	.57210	.05990	1.24820	-.03553	.00130	.01570	-.01600	.64200	.05674
.201	30.890	1.11210	.62410	.06600	1.27470	-.03555	-.00350	.01590	-.00600	.64000	.06316
.201	GRADIENT	.04621	.00107	.00013	.04665	-.00046	.00009	.00021	-.00046	-.01124	.00016

DATE 15 NOV 73

TABULATED SOURCE DATA - NAL 708 QAT1A

PAGE 4

QAT1A B10C5 D7 F1 W07E18V3R3X9

(RCS006) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 36.17. XMRP = 43.9974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = -10.000 AILRON = .000
VTLINE = .000 RUDDER = .000
SPDRBK = .000

RUN NO. 6/ 0 RWL = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.201	-4.170	-3.0930	.04130	.09730	-.31130	.01869	.00160	-.00280	-.00300	.77100	.01065
.201	-2.110	-.21310	.03230	.09620	-.21620	.02458	.00150	-.00280	-.00400	.82200	.01119
.201	-1.060	-1.6730	.02930	.09600	-.16800	.02643	.00140	-.00250	-.00300	.86800	.01116
.201	-.030	-.12030	.02790	.09660	-.12140	.02787	.00120	-.00230	-.00300	.95200	.01079
.201	.960	-.07410	.02610	.09930	-.07370	.02747	.00110	-.00230	-.00300	1.14200	.01122
.201	2.020	-.02600	.02320	.09960	-.02510	.02614	.00120	-.00240	-.00300	2.06200	.01111
.201	4.070	.06730	.02510	.10180	.06890	.02034	.00100	-.00210	-.00200	.13100	.01144
.201	6.180	.13930	.02660	.13210	.16130	.01156	.00100	-.00170	-.00100	.43100	.01147
.201	8.210	.23370	.03760	.10320	.25640	.00102	.00100	-.00130	-.00200	.51300	.01134
.201	10.280	.35310	.05230	.10690	.35660	-.01155	.00120	-.00140	-.00100	.55200	.01216
.201	12.370	.46190	.07560	.10560	.46740	-.02510	.00130	-.00160	-.00100	.57900	.01348
.201	14.480	.57820	.10870	.10160	.56700	-.03911	.00140	-.00180	-.00200	.59800	.01521
.201	16.530	.69760	.15930	.09260	.71410	-.04580	.00300	.00070	-.00200	.61300	.01732
.201	18.630	.80930	.22330	.08300	.83910	-.04492	.00290	.00130	-.00200	.62400	.01955
.201	20.730	.92970	.30060	.07020	.97590	-.04795	.00300	-.00310	-.00200	.63400	.02297
.201	22.800	1.01320	.37070	.06840	1.07960	-.05166	.00320	-.00370	.00300	.63600	.02436
.201	24.890	1.10930	.45260	.06360	1.19390	-.05592	.00310	-.00430	.00300	.64000	.02980
.201	26.900	1.10970	.50330	.06630	1.21730	-.05310	.00320	-.00710	-.00100	.63400	.03616
.201	28.930	1.01360	.51310	.12310	1.13730	-.04062	.00230	-.01020	-.02100	.62100	.05117
.201	30.860	1.01340	.56200	.13060	1.15820	-.03744	-.00100	.00930	-.01200	.61900	.05474
GRADIENT		.04372	-.00192	.00052	.04619	.00025	-.00036	.00007	.00014	.00562	.00007

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 705 OAT1A

PAGE 5

OAT1A B16CS 07 F1 W07E16V3R3X5

(RDS007) (10 OCT 75)

REFERENCE DATA

BRDF = 4.4122 SQ.FT. XALP = 43.5974 INCHES
 LREF = 19.2299 INCHES YHRP = .0000 INCHES
 BRDF = 37.9349 INCHES ZHRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = 10.000
 VTILNC = .000 RUDDER = .000
 %DBRK = .000

PARAMETRIC DATA

RUN NO. 7/ 0 RM/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.201	-4.080	-.09140	.03300	.00050	-.06350	.02652	.00720	.03710	-.03700	.66250	.01770
.201	-2.000	.00320	.03100	.00030	.00210	.03110	.00790	.03800	-.04000	.59800	.01806
.201	-.970	.04970	.03160	.00100	.04910	.03252	.00640	.03820	-.04200	.65200	.01756
.201	.060	.09660	.03160	.00120	.09860	.03177	.00680	.03910	-.04500	.65500	.01813
.201	1.095	.14410	.03370	.00110	.14470	.03103	.00690	.03930	-.04500	.65700	.01826
.201	2.130	.19040	.03650	.00170	.19160	.02936	.00910	.03940	-.04700	.65800	.01792
.201	4.180	.28010	.04290	.00340	.28250	.02236	.00950	.03980	-.04700	.65900	.01774
.201	6.250	.37340	.05340	.00370	.37700	.01243	.00980	.04030	-.05000	.65900	.01778
.201	8.330	.46740	.06940	.00480	.47260	.00096	.00990	.04070	-.05200	.65800	.01776
.201	10.390	.57330	.08270	.00400	.58160	-.01221	.01050	.04200	-.05500	.65700	.01836
.201	12.470	.68260	.12490	.00090	.69350	-.02555	.01090	.04240	-.06200	.66100	.02092
.201	14.670	.80470	.16640	-.00410	.82110	-.03991	.01150	.04240	-.06200	.66100	.02315
.201	16.870	.92220	.23190	-.01620	.95000	-.04247	.01190	.04360	-.06300	.66800	.02691
.201	18.730	1.01990	.30300	-.02300	1.06390	-.03679	.00630	.04170	-.05500	.66700	.03086
.201	20.820	1.12970	.39040	-.03480	1.19470	-.03657	.00760	.03980	-.05400	.67000	.03300
.201	22.970	1.20690	.46460	-.02980	1.29450	-.04261	.00510	.03210	-.04300	.66800	.03944
.201	24.950	1.27160	.54510	-.02510	1.38310	-.04243	.00400	.02320	-.03200	.66600	.05126
.201	26.920	1.17500	.55130	.03170	1.29730	-.04055	.00610	.00590	-.00400	.65100	.06095
.201	28.890	1.09870	.63200	.06320	1.23670	-.02920	-.00010	.02630	-.01800	.64100	.06189
.201	30.940	1.09970	.62650	.07130	1.26530	-.02808	-.00320	.02560	-.01300	.63900	.06189
	GRADIENT	.04517	.00122	.00033	.04572	-.00050	.00026	.00035	-.00122	.00215	.00001

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 706 CAT1A

PAGE 6

CAT1A 816C5 D7 F1 W87E18V3R3X9

(RDS008) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = 10.000 AILRON = .000
VTLINE = .000 RUDDER = .000
SPDRK = .000

RUN NO. 8/0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CEL	CY	XCP/L	CAB
.201	-3.940	.10980	.02820	-.09320	.10470	.03954	.00110	-.00140	.00000	.97800	.02022
.201	-1.870	.19980	.03310	-.09370	.19860	.03963	.00090	-.00130	.00000	.82800	.01918
.201	-.660	.24790	.03570	-.09430	.24730	.03952	.00090	-.00160	.00000	.79600	.01981
.201	.160	.29430	.04010	-.09490	.29440	.03919	.00090	-.00150	.00000	.77400	.01936
.201	1.200	.33930	.04410	-.09440	.34030	.03702	.00080	-.00150	.00100	.75500	.01991
.201	2.230	.38600	.04970	-.09330	.38760	.03469	.00080	-.00160	.00100	.74600	.01913
.201	4.290	.47370	.06210	-.09080	.47710	.02846	.00070	-.00160	.00100	.72800	.01890
.201	6.370	.56900	.07930	-.09320	.57430	.01567	.00070	-.00160	.00100	.71800	.01935
.201	8.440	.66680	.10260	-.09180	.67460	.00360	.00030	-.00140	.00200	.70800	.01673
.201	10.520	.77950	.13380	-.09680	.79090	-.01075	.00030	-.00150	.00210	.70300	.02322
.201	12.600	.86750	.17370	-.10020	.90400	-.02422	.00030	-.00150	.00300	.69900	.02034
.201	14.680	1.00950	.22570	-.10890	1.03320	-.03733	.00130	-.00300	.00100	.69700	.02247
.201	16.790	1.12750	.30330	-.11960	1.16700	-.05541	.00150	-.00350	.00000	.69600	.02716
.201	18.860	1.22060	.39050	-.12880	1.26130	-.07502	.00400	-.00590	-.00400	.69500	.03182
.201	20.960	1.33360	.48070	-.13920	1.41730	-.09830	.00260	-.00300	.00000	.69300	.03750
.201	23.040	1.40380	.56380	-.13270	1.51250	-.03064	.00070	-.00740	.00700	.59100	.04116
.201	25.040	1.39990	.61560	-.09610	1.52530	-.03297	.00290	-.00720	.00200	.68200	.04672
.201	26.950	1.21490	.56720	-.01470	1.34910	-.02734	.00630	.00670	-.02600	.66300	.05064
.201	28.950	1.18100	.62670	.00640	1.33770	-.02154	.00280	.00900	-.01800	.65800	.05780
.201	30.950	1.16690	.67960	.01480	1.39030	-.01729	-.00180	.00800	-.01100	.65600	.06984
GRADIENT	.04472	.00410	.00410	.00023	.04540	-.00113	-.00004	-.00003	.00016	-.02762	-.00012

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL TCG ON71A

PAGE 7

ON71A B16C5 D7 F1 W87E18V83X9

(R03009) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 80.FT. XMRP = 43.5974 INCHES
LRCP = 19.2299 INCHES YMRP = .0000 INCHES
BRCP = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

BETA = .000 BDFLAP = -16.000
ELEVON = -20.000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = .000

RUN NO. 9/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

MACH	ALPHA	CL	CD	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAS
.201	-4.270	-4.6660	.06620	.16660	-4.7240	.03312	.00210	-.00160	-.00700	.78700	.00934
.201	-2.190	-3.7300	.03460	.16720	-3.7490	.04031	.00170	-.00160	-.00600	.61900	.00924
.201	-1.170	-3.2760	.03020	.16610	-3.2660	.04334	.00160	-.00130	-.00600	.64200	.00862
.201	-.140	-2.8590	.04430	.17020	-2.8600	.04361	.00140	-.00090	-.00500	.67200	.00973
.201	.600	-2.4030	.04050	.17070	-2.3970	.04429	.00160	-.00100	-.00500	.91400	.00904
.201	1.920	-.19230	.03670	.17020	-1.9120	.04321	.00160	-.00060	-.00700	.97900	.00940
.201	3.970	-.09410	.03160	.17020	-.09170	.03826	.00160	-.00240	-.00600	1.32300	.00972
.201	6.060	-.00190	.02960	.17160	.00120	.02966	.00160	.00010	-.00600	15.99400	.01059
.201	6.110	.06770	.03240	.17580	.09140	.01978	.00120	.02640	-.00400	-.02700	.01086
.201	10.160	.17560	.04090	.18340	.18000	.00923	.00170	.00010	-.00500	.29300	.01141
.201	12.250	.27200	.05720	.18570	.27600	-.00162	.00160	.00000	-.00200	.42100	.01186
.201	14.340	.36350	.08280	.18570	.39200	-.01481	.00120	.00000	.00000	.49000	.01416
.201	16.450	.49660	.12550	.18110	.51180	-.02024	.00250	.00060	-.00100	.53300	.01594
.201	18.490	.60200	.17190	.18000	.62540	-.02792	.00050	.00010	.00200	.55700	.01614
.201	20.600	.71750	.23310	.17000	.73440	-.03240	.00060	.00060	.00100	.57900	.01956
.201	22.670	.80620	.29910	.16890	.83920	-.03463	.00220	-.00170	.00100	.58900	.02143
.201	24.760	.89640	.37070	.16260	.97110	-.03936	.00310	-.00640	.00300	.60000	.02654
.201	26.820	.94880	.43820	.16640	1.04450	-.03715	.00510	-.01090	.00300	.60300	.03089
.201	29.840	.90890	.46750	.16950	1.02170	-.02866	.00360	.00380	-.01000	.59300	.03663
.201	30.800	.90120	.50740	.19610	1.03390	-.02561	-.00130	.00070	-.01300	.50200	.04750
GRADIENT		.04502	-.00442	.00036	.04578	.00063	-.00005	.00016	.00007	.05863	.00005

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 708 CAT1A

PAGE 8

CAT1A B16C5 D7 F1 W07E16V3R3X9

(R05D10) (10 OCT 75)

REFERENCE DATA

GRZF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LMRP = 19.2299 INCHES YMRP = .0000 INCHES
 BRZF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = 15.000
 VTLINE = .000 RUDDER = .000
 SPDGRK = .000

RUN NO. 10/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.050	-.08110	.04520	-.00320	-.06410	.03941	.01000	.05580	-.05600	.63700	.01772
.201	-1.990	.01060	.04310	-.00450	.00910	.04347	.01060	.05680	-.05900	.63700	.01847
.201	-.950	.05580	.04340	-.00450	.05500	.04434	.01070	.05730	-.06100	.65900	.01855
.201	.070	.10300	.04470	-.00390	.10300	.04462	.01110	.05770	-.06400	.67500	.01821
.201	1.090	.15070	.04640	-.00330	.15180	.04355	.01130	.05830	-.06500	.66700	.01832
.201	2.120	.19440	.04970	-.00340	.19610	.04247	.01150	.05880	-.06700	.66600	.01762
.201	4.180	.26090	.05530	-.00300	.26420	.03474	.01180	.05870	-.06900	.66000	.01812
.201	6.270	.37930	.06680	-.00110	.36430	.02496	.01230	.05970	-.07100	.66100	.01836
.201	8.330	.46320	.06560	-.00300	.49230	.02436	.01270	.06310	-.07700	.66300	.01872
.201	10.410	.56770	.10910	-.00530	.59770	.00107	.01330	.06480	-.08000	.66300	.02004
.201	12.490	.69340	.14200	-.00720	.70960	-.01183	.01360	.06510	-.08300	.66300	.02093
.201	14.560	.80220	.16300	-.00960	.82240	-.02462	.01460	.06480	-.08700	.66400	.02206
.201	16.630	.92020	.24690	-.01870	.95240	-.02716	.01440	.06630	-.08700	.66700	.02394
.201	18.750	1.00960	.31770	-.02270	1.05630	-.02379	.00980	.05930	-.07800	.66700	.02891
.201	20.830	1.12060	.40140	-.03400	1.19030	-.02387	.00960	.05850	-.08000	.67000	.03267
.201	22.900	1.16770	.47000	-.02580	1.27700	-.02922	.00660	.04960	-.08700	.66700	.03532
.201	24.960	1.24070	.54370	-.01360	1.35360	-.03034	.00430	.03780	-.04800	.66300	.04069
.201	26.920	1.19910	.55480	.03660	1.28470	-.03020	.00500	.01670	-.01400	.64900	.05237
.201	28.900	1.09560	.57990	.06030	1.25970	-.02193	.00090	.03110	-.01900	.64000	.06253
.201	30.910	1.06420	.62520	.07510	1.23350	-.01708	-.00430	.03260	-.01100	.63800	.06223
.201	GRADIENT	.04424	.00131	.00053	.04502	-.00050	.00022	.00036	-.00167	-.00629	-.00000

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 706 OAT1A

PAGE 9

OAT1A B16C5 D7 F1J14487 E16V3R3X10

(RDS011) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 96.FT. XMRP = 43.9974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = .000 ATLRON = 15.000
VTLINE = .000 RUDDER = .003
SPDRK = .000 NACX/L = .000

RUN NO. 11/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	C.M	CN	CAF	CYN	CSL	CY	XCP/L	CAB
.201	-4.080	-.10260	.04960	-.01600	-.10610	.04215	.00990	.05490	-.05400	.85500	.01797
.201	-2.000	-.00240	.04880	-.01100	-.00410	.04668	.01030	.05580	-.05700	-.29550	.01613
.201	-.970	.04930	.04960	-.00830	.04840	.05046	.01060	.05630	-.06000	.72150	.01631
.201	.060	.09750	.05190	-.00610	.09790	.05184	.01090	.05670	-.06200	.66200	.01795
.201	1.090	.14570	.05500	-.00340	.14670	.05222	.01110	.05710	-.06400	.66000	.01797
.201	2.120	.19510	.05890	-.00040	.19710	.05127	.01100	.05720	-.06500	.66000	.01792
.201	4.190	.28890	.06820	.00610	.29320	.04690	.01110	.05730	-.06600	.65000	.01794
.201	6.280	.39060	.08350	.00940	.39730	.04023	.01160	.05900	-.07000	.65100	.01607
.201	8.350	.48990	.10790	.01380	.50040	.03558	.01100	.06100	-.07600	.65000	.01634
.201	10.420	.58240	.13870	.01780	.60770	.02922	.01240	.06200	-.07700	.64900	.01958
.201	12.520	.66870	.17390	.02740	.70810	.02095	.01260	.06300	-.08200	.64800	.01941
.201	14.570	.77800	.21340	.03650	.80670	.01070	.01900	.05930	-.08300	.64300	.02024
.201	16.650	.87170	.27190	.04040	.91310	.01075	.01990	.05540	-.09600	.64000	.02361
.201	18.710	.95440	.34440	.04800	1.01450	.01991	.02440	.04390	-.07400	.64500	.02802
.201	20.780	1.00100	.41330	.05760	1.08250	.03123	.02300	.03520	-.07600	.64000	.03266
.201	22.820	1.04490	.47280	.06860	1.14650	.05043	.02110	.03730	-.04000	.63900	.03750
.201	24.870	1.08520	.53460	.08660	1.20940	.02859	.02300	.02720	-.01900	.63400	.03064
.201	26.900	1.08550	.58260	.10270	1.23160	.02287	.02090	.02720	-.01000	.63100	.05465
.201	28.930	1.10160	.63510	.11340	1.27140	.01581	-.02060	.02050	-.00100	.62800	.05692
.201	30.950	1.09860	.67740	.05264	1.29460	.00260	.02015	.02032	-.00175	.62700	-.00002
.201		.04745	.00229		.04836						

DATE 15 NOV 73

TABULATED SOURCE DAT. - NAAL 708 CM71A

PAGE 10

CM71A B16C5 D7 F1J14M87 E18V8K3X1D

(R05012) (15 OCT 73)

REFERENCE DATA

SREF = 4.4122 36. FT. XMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0005 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = -20.000 ALLRON = .000
VTILINC = .000 RUDDER = .000
SPDBRK = .000 NACH/L = .000

RUN NO. 12/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	NACH/L	CAB
.201	-4.290	-.48360	.08090	.14560	-.48630	.04457	.00200	-.00420	-.00800	.76800	.00944
.201	-2.210	-.36760	.08560	.15110	-.36990	.05005	.00130	-.00300	-.00600	.79800	.00882
.201	-1.180	-.33450	.09900	.15340	-.33570	.05214	.00100	-.00320	-.00500	.82500	.00891
.201	-.140	-.26600	.08360	.15680	-.28610	.05289	.00080	-.00490	-.00500	.85500	.00919
.201	.690	-.23260	.04960	.15910	-.23180	.05349	.00090	-.00470	-.00470	.90500	.00861
.201	1.820	-.16240	.04630	.16220	-.16070	.05243	.00090	-.00470	-.00400	.98000	.00865
.201	3.990	-.06320	.04150	.16920	-.08010	.04723	.00060	-.00530	-.00100	1.41400	.00969
.201	6.050	.00610	.04210	.17650	.01250	.04106	.00060	-.00300	-.00300	-4.36800	.00927
.201	8.110	.10450	.04720	.18750	.10990	.03202	.00040	-.00330	.00000	.05000	.00994
.201	10.210	.19720	.06230	.19660	.20520	.02640	.00100	-.00370	.00100	.31700	.01106
.201	12.270	.26650	.08280	.20940	.29960	.01960	.00140	-.00370	.00000	.41000	.01161
.201	14.340	.36260	.10700	.21980	.39720	.00892	.00210	-.00210	-.00100	.46200	.01367
.201	16.430	.48440	.13930	.22790	.50410	-.00343	.00290	-.00110	-.00200	.49800	.01600
.201	18.520	.59210	.20500	.21600	.62600	.00440	.00370	.00000	-.00300	.53600	.01756
.201	20.610	.66600	.25370	.22240	.72770	-.00265	.00260	-.00090	.00000	.55000	.02136
.201	22.680	.75960	.31310	.22010	.82160	-.00372	.00370	-.00340	.00400	.56400	.02523
.201	24.710	.81950	.37610	.21700	.90170	-.00096	.00420	-.00230	.00200	.57500	.02834
.201	26.770	.86660	.43660	.21850	.97040	-.00053	.00290	.00000	.00700	.57900	.03312
.201	28.790	.90570	.49270	.22540	1.03110	-.00454	.00250	.00070	-.00100	.58100	.03749
.201	30.840	.92300	.54420	.22990	1.07150	-.00591	.00140	.00360	-.00600	.58300	.04259
GRADIENT		.04865	-.00475	.00281	.04960	.00056	-.00015	-.00008	.00076	.06989	.00003

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 OM71A

PAGE 11

OM71A 816C5 D7 F1J14W87 E16V3R3X10

(R05013) (10 OCT 73)

REFERENCE DATA

SRCP = 4.4122 90.FT. XMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BRCP = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0403 SCALE

PARAMETRIC DATA

BETA = .000 SCFLAP = -18.000
ELEVON = 10.000 AILRON = .000
VTILNC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .000

RUN NO. 13/ 0 RN/L = 1.44 GRADIENT TRVAL = -9.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-3.980	.09320	.03960	-.10130	.09050	.04204	.00090	-.00190	.00000	1.06700	.02066
.201	-1.880	.19220	.03880	-.09800	.19080	.04513	.00080	-.00140	-.00100	.84300	.02006
.201	-.880	.24230	.04190	-.09330	.24170	.04565	.00070	-.00170	.00100	.80100	.02018
.201	.180	.28870	.04580	-.09230	.28890	.04502	.00050	-.00170	.00100	.77400	.01958
.201	1.200	.33660	.05020	-.08950	.33970	.04314	.00060	-.00190	.00100	.75400	.01977
.201	2.210	.38590	.05620	-.08630	.38780	.04131	.00050	-.00210	.00300	.73900	.01911
.201	4.300	.48310	.07030	-.08070	.48710	.03968	.00050	-.00200	.00200	.71900	.01969
.201	6.380	.58530	.09150	-.07670	.58210	.02591	.00030	-.00200	.00300	.70600	.01886
.201	8.440	.68390	.12020	-.07030	.69390	.01895	.00030	-.00160	.00200	.69600	.01969
.201	10.530	.78430	.15630	-.06400	.79960	.00994	.00030	-.00190	.00300	.68800	.02049
.201	12.610	.88390	.19640	-.05700	.90510	-.00133	.00010	-.00140	.00400	.68200	.02224
.201	14.690	.97380	.24010	-.04670	1.00290	-.01473	.00040	-.00160	.00300	.67600	.02469
.201	16.770	1.06830	.29840	-.04110	1.10900	-.02256	.00400	-.00300	-.00200	.67300	.02652
.201	18.830	1.13710	.39150	-.04130	1.20260	.00344	.00440	.00590	-.00300	.67200	.03215
.201	20.880	1.17500	.45940	-.02790	1.25970	.01097	.00160	.00200	.00000	.66700	.03483
.201	22.920	1.20930	.52390	-.01240	1.31790	.01142	.00210	.00030	.00000	.66300	.04017
.201	24.970	1.23670	.58120	.00550	1.36830	.00394	.00230	-.00180	.00100	.65800	.04338
.201	26.970	1.21270	.61760	.03520	1.36090	.00035	.00120	-.00370	.00800	.65000	.05410
.201	29.000	1.21030	.66390	.05390	1.38050	-.00626	.00200	.00190	-.00300	.64600	.05768
.201	30.010	1.22150	.69330	.06020	1.40480	-.01028	.00160	-.00070	.00200	.64400	.05971
GRADIENT	.04719	.00420	.00420	.00275	.04800	-.00099	-.00005	-.00005	.00037	-.00002	-.00014

0A71A B16C5 D7 F1J14J87 E16VSR3X1D

(RDS014) (10 OCT 73)

REFERENCE DATA

WREF = 4.4122 96.FT. WREF = 43.9974 INCHES
LREF = 19.2299 INCHES YREF = .0000 INCHES
BREF = 37.9349 INCHES ZREF = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
ELEVON = .000 AILRON = 10.000
VTILNC = .000 RUDDER = .000
SPSRNK = .000 NACK/L = .000

RUN NO. 14/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALP/LA	CL	CDP	CLM	CN	CAF	CIN	CBL	CY	XCP/L	CAB
.201	-4.110	-.10290	.04310	-.01290	-.10360	.03562	.00720	.03640	-.03700	.61600	.01753
.201	-2.040	-.00420	.03980	-.00760	-.00560	.03972	.00790	.03700	-.04000	.17400	.01722
.201	-.990	.04860	.03970	-.00540	.04810	.04039	.00800	.03670	-.04000	.70000	.01736
.201	.090	.10560	.04120	-.00440	.10560	.04111	.00820	.03560	-.04100	.67400	.01736
.201	1.080	.14850	.04470	.00110	.14930	.04202	.00850	.03740	-.04300	.63700	.01674
.201	2.080	.19240	.04590	.00300	.19390	.03866	.00900	.03630	-.04600	.63000	.01734
.201	4.190	.28610	.05360	.01200	.29120	.03261	.00900	.03650	-.04600	.64500	.01666
.201	6.290	.36870	.06660	.01740	.39360	.02363	.00950	.03970	-.05000	.64400	.01739
.201	8.300	.48560	.08660	.02400	.49310	.01561	.00990	.04030	-.05200	.64200	.01799
.201	10.300	.58400	.11680	.02960	.59550	.00962	.00970	.04000	-.05200	.64200	.01760
.201	12.490	.66990	.14940	.03690	.70200	-.00200	.00970	.04140	-.05600	.64100	.01911
.201	14.590	.78230	.18810	.04570	.80450	-.01447	.00980	.04010	-.05700	.63900	.02000
.201	16.610	.87720	.23410	.05310	.90750	-.02643	.01050	.03860	-.06000	.63900	.02263
.201	18.690	.97040	.31460	.06660	1.02000	-.01310	.01130	.04130	-.06100	.64200	.02715
.201	20.790	1.02640	.38790	.05350	1.09910	-.00184	.00510	.03210	-.04300	.64200	.03109
.201	22.800	1.07540	.43240	.06110	1.16670	.00020	.00420	.02660	-.03700	.64100	.03513
.201	24.800	1.11500	.51180	.07360	1.22690	-.00441	.00270	.02380	-.03000	.63800	.04026
.201	26.800	1.10980	.55660	.08390	1.24160	-.00307	.00110	.01630	-.01100	.63200	.04921
.201	28.900	1.12730	.60930	.10720	1.26140	-.01140	.00190	.01790	-.01300	.63000	.05417
.201	30.900	1.13260	.66070	.11670	1.31120	-.01485	.00740	.01600	-.00600	.62700	.05756
GRADIENT	.04749	.00136	.00136	.00303	.04821	-.00028	.00024	.00027	-.00116	.02374	-.00007

DATE 19 NOV 75

TABULATED SOURCE DATA - NAAL 708 OA71A

PAGE 13

OA71A B16C5 D7 F1J14M87 E18VRSX110

(80S015) (16 OCT 75)

REFERENCE DATA

BRZF = 4.4122 SQ.FT. XMRP = 43.9974 INCHES
 LRZF = 19.2299 INCHES YMRP = .0000 INCHES
 BRZF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RM/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = -10.000 AILRO1 = .000
 VTLINE = .000 RUDDER = .000
 SPDBRK = .000 NACKX1 = .000

MACH = .201	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CV	XCF/L	CAB
	-4.190	-.32740	.04980	.06160	-.33020	.02559	.00120	-.00110	-.00800	.74800	.01986
	-2.110	-.22710	.03930	.06690	-.22840	.03116	.00110	-.00100	-.00300	.79600	.01956
	-1.090	-.17760	.03610	.08960	-.17890	.03274	.00080	-.00100	-.00400	.83900	.01951
	-.050	-.12570	.03300	.09340	-.12580	.03295	.00050	-.00100	-.00400	.92500	.01123
	.970	-.07540	.03210	.09610	-.07490	.03340	.00080	-.00100	-.00400	1.11900	.01048
	2.010	-.02720	.03030	.09960	-.02610	.03149	.00060	-.00110	-.00400	2.02200	.01136
	4.060	.07100	.03190	.10610	.07310	.02677	.00090	-.00110	-.00400	.14100	.01098
	6.130	.17000	.03680	.11290	.17300	.01845	.00070	-.00140	-.00200	.42600	.01147
	8.240	.26920	.05030	.11970	.27370	.01119	.00090	-.00090	-.00400	.90300	.01138
	10.320	.37270	.07110	.12540	.37940	.00324	.00100	-.00130	-.00200	.54100	.01270
	12.390	.47680	.09770	.13280	.48660	-.00689	.00090	-.00130	-.00200	.56200	.01482
	14.500	.57900	.13040	.13910	.59320	-.01872	.00090	-.00140	-.00200	.57600	.01636
	16.530	.68060	.17080	.14460	.70110	-.02991	.00140	-.00150	-.00100	.58600	.01815
	18.670	.78080	.24820	.15000	.81900	-.01407	.00200	-.00050	.00000	.60100	.02161
	20.690	.86470	.30980	.13970	.91840	-.01573	.00130	-.00130	.00200	.60500	.02477
	22.760	.93260	.37220	.14000	1.00400	-.01762	.00330	-.00160	.00000	.61000	.02863
	24.800	.97820	.43320	.14450	1.06970	-.01722	.00250	-.00300	.00300	.61100	.03147
	26.850	1.00310	.49130	.15180	1.11870	-.01569	.00140	-.00140	.00100	.61100	.03704
	28.870	1.02130	.54190	.16490	1.15600	-.01666	.00060	.00080	.00000	.60800	.04357
	30.900	1.03850	.59790	.17070	1.19820	-.02027	.00130	-.00020	.00100	.60900	.04610
GRADIENT		.04831	-.00214	.00299	.04890	.00014	-.00005	-.00000	.00023	.00688	.00005

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 14

ON71A B16C5 D7 F1J14W67 E16V83X10

(RDS016) (10 OCT 73)

REFERENCE DATA

WREF = 4.4122 36.FT. WREF = 43.5974 INCHES
LREF = 19.2217 INCHES WREF = .0000 INCHES
BREF = 37.9349 INCHES WREF = 16.2030 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = .000 AILRON = 5.000
VTLINE = .000 RUDDER = .000
SPDBRK = .000 NACX/L = .000

RUN NO. 16/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

INCH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAE
.201	-4.080	-1.1360	.03600	-.00660	-.11990	.02784	.00450	.01910	-.02100	.63300	.01619
.201	-2.010	-.01990	.03240	-.00300	-.01700	.03184	.00490	.01970	-.02300	.59500	.01639
.201	-.980	.03710	.03210	-.00010	.03660	.03277	.00300	.01960	-.02100	.66100	.01631
.201	.040	.06910	.03260	.00270	.08510	.03274	.00490	.02100	-.02300	.64800	.01616
.201	1.060	.13360	.03410	.00550	.13450	.03158	.00300	.02010	-.02200	.64500	.01648
.201	2.140	.18440	.03640	.00690	.18560	.02952	.00310	.02030	-.02300	.64200	.01638
.201	4.230	.26220	.04420	.01470	.26470	.02323	.00310	.02030	-.02300	.64100	.01600
.201	6.270	.36210	.05650	.01990	.36600	.01444	.00320	.02110	-.02500	.64100	.01644
.201	8.350	.48220	.07630	.02540	.48850	.00743	.00340	.02100	-.02500	.64100	.01640
.201	10.430	.58560	.10670	.03070	.59060	-.00015	.00350	.02110	-.02600	.64000	.01738
.201	12.570	.68770	.14100	.03630	.70190	-.01144	.00320	.02140	-.02800	.64000	.01863
.201	14.970	.78310	.17930	.04540	.80300	-.02348	.00360	.02100	-.02900	.63900	.02712
.201	16.650	.87720	.22570	.05020	.90510	-.03520	.00630	.01960	-.03000	.64000	.02262
.201	18.730	.97190	.30250	.06300	1.01760	-.02563	.01170	.02430	-.04100	.64300	.02705
.201	20.790	1.03490	.36120	.04930	1.10290	-.01106	.00400	.01730	-.02400	.64300	.03038
.201	22.840	1.06830	.44770	.03790	1.17670	-.00988	.00330	.01280	-.01800	.64200	.03453
.201	24.900	1.13070	.50800	.06840	1.23950	-.01539	.00280	.01150	-.01400	.64000	.04771
.201	26.910	1.12530	.55650	.08760	1.25540	-.01323	.00060	.01140	-.01000	.63500	.04746
.201	28.930	1.13470	.60660	.10160	1.28650	-.01619	.00140	.01010	-.00700	.63100	.05234
.201	30.940	1.14670	.66210	.11190	1.32390	-.02175	.00140	.00660	.00100	.62900	.05490
GRADIENT		.04763	.00099	.01281	.04820	-.00056	.00056	.00016	-.00021	.00250	-.00001

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 CAT1A

PAGE 15

CAT1A B16C5 D7 F1J14W87 E18V8R3Y10

(RDS017) (10 OCT 73)

REFERENCE DATA

GRAV = 4.4122 SG.FT. XMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
DREF = 37.9348 INCHES ZMRP = 16.2000 INCHES
SCALE = .0455 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = 5.000 AILRON = .000
VTLINE = .000 RUDDER = .000
SPDRK = .000 NACK/L = .000

RUN NO. 17/ 0 RN/L = 1.44 GRADIENT INTERVAL = -3.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CDL	CY	XCP/L	CAB
.201	-4.000	-.00720	.03210	-.05690	-.00740	.03154	.00160	-.00110	-.00400	-1.49700	.01792
.201	-1.940	.09230	.03170	-.05210	.09140	.03489	.00120	-.00100	-.00200	.86300	.01811
.201	-.800	.14390	.03320	-.04700	.14290	.03543	.00110	-.00110	-.00200	.78400	.01791
.201	.140	.19040	.03550	-.04660	.19030	.03509	.00120	-.00110	-.00100	.74700	.01759
.201	1.150	.24020	.03830	-.01390	.24090	.03351	.00110	-.00120	-.00100	.72400	.01762
.201	2.210	.28910	.04300	-.04050	.29050	.03186	.00090	-.00120	.00000	.70900	.01710
.201	4.260	.36610	.05350	-.03450	.36900	.02460	.00070	-.00150	.00000	.69100	.01749
.201	6.350	.48790	.07030	-.03100	.49270	.01598	.00070	-.00140	.00000	.68200	.01751
.201	8.420	.56760	.09540	-.02340	.59350	.00830	.00060	-.00140	.00200	.67500	.01757
.201	10.500	.68860	.12750	-.01780	.70050	-.00017	.00050	-.00120	.00100	.66900	.01919
.201	12.570	.78700	.16120	-.01150	.80440	-.01112	.00050	-.00090	.00000	.66500	.02020
.201	14.650	.86400	.20700	-.00380	.90760	-.03339	.00070	-.00120	.00100	.66100	.02280
.201	16.710	.97930	.25990	.00010	1.01270	-.03277	.00360	-.00270	-.00400	.65900	.02453
.201	18.790	1.06250	.34670	-.00170	1.11750	-.01397	.00350	-.00130	-.00300	.66000	.02656
.201	20.860	1.11780	.42050	.00460	1.19420	-.00523	.00180	-.00140	.00300	.65800	.03300
.201	22.900	1.15940	.48600	.01610	1.25720	-.00348	.00210	-.00180	.00000	.65500	.03765
.201	24.950	1.19050	.54280	.03130	1.30950	-.00835	.00210	-.00280	.00400	.65100	.04143
.201	26.950	1.17800	.58060	.05470	1.31690	-.00924	.00080	-.00300	.00800	.64500	.05067
.201	29.010	1.18920	.63900	.07110	1.34920	-.01791	.00170	-.00070	.00000	.64100	.05327
.201	31.010	1.18260	.62120	.08580	1.36910	-.01770	.00100	-.00210	.00700	.63700	.05695
GRADIENT		.04750	.00261	.00274	.04812	-.00062	-.00200	-.00005	.00048	.19323	-.00009

DATE 18 NOV 73

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 16

ON71A B16C5 D7 F1J1A467 E18V3R3X10

(RDS019) (10 OCT 73)

REFERENCE DATA

BREF = 4.4122 38. FT. XRRP = 43.374 INCHES
 LREF = 19.2299 INCHES YRRP = .0000 INCHES
 BREF = 37.9349 INCHES ZRRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPODRK = .000 NACK/L = .000

RUN NO. 19/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 9.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.090	-1.1400	.03480	-.01090	-.11820	.02659	.00060	-.00110	-.00300	.62700	.01565
.201	-2.000	-.01120	.03170	-.00480	-.01230	.03135	.00060	-.00120	-.00200	.52000	.01572
.201	-.940	.03740	.03200	-.00290	.03660	.03266	.00060	-.00140	-.00100	.66200	.01519
.201	.060	.06990	.03240	.00060	.06670	.03235	.00070	-.00140	.00000	.65700	.01574
.201	1.060	.13260	.03290	.00060	.13340	.03041	.00060	-.00140	.00000	.64600	.01578
.201	2.110	.18090	.03570	.00060	.18210	.02905	.00060	-.00160	.00000	.64600	.01549
.201	4.210	.26130	.04270	.01260	.26370	.02194	.00060	-.00190	.00000	.64000	.01597
.201	6.250	.36170	.05540	.01740	.36340	.01354	.00000	-.00220	.00300	.64300	.01541
.201	8.340	.46140	.07680	.02200	.46740	.00615	.00000	-.00180	.00300	.64300	.01569
.201	10.440	.56030	.10630	.02660	.55990	-.00175	-.00050	-.00130	.00300	.64200	.01694
.201	12.510	.66060	.13900	.03560	.70240	-.01347	-.00020	-.00120	.00200	.64100	.01636
.201	14.580	.76620	.17690	.04090	.80600	-.02475	-.00030	-.00120	.00300	.64100	.02106
.201	16.640	.86240	.22630	.04650	.91020	-.03615	-.00130	-.00270	.00600	.64400	.02262
.201	18.710	.97470	.30660	.04400	1.02220	-.02055	-.00050	-.00380	.00900	.64400	.02690
.201	20.800	1.03630	.36290	.04690	1.10480	-.01009	.00150	-.00250	.00900	.64400	.03011
.201	22.860	1.06790	.44630	.05710	1.17580	-.01151	.00150	-.00250	.00900	.64200	.03380
.201	24.910	1.12680	.50630	.06760	1.23530	-.01546	.00160	-.00340	.00600	.64000	.03609
.201	26.930	1.12600	.59690	.08560	1.29790	-.01448	.00070	-.00210	.00600	.63500	.04568
.201	28.960	1.14000	.60600	.09910	1.29190	-.01997	.00120	-.00340	.00200	.63200	.05136
.201	30.990	1.14950	.66200	.10990	1.39280	-.02226	.00160	-.00300	.00600	.63000	.05393
GRADIENT		.04744	.00093	.00281	.04600	-.00058	-.00006	-.00009	.00056	.00659	.00001

REFERENCE DATA

BREF = 4.4122 38. FT. XRRP = 43.374 INCHES
 LREF = 19.2299 INCHES YRRP = .0000 INCHES
 BREF = 37.9349 INCHES ZRRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPODRK = .000 NACK/L = .000

RUN NO. 20/ 0 RV/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.080	.10160	.01960	-.00950	.10170	.01955	-.00910	.00100	.22800	.69300	.01654
.201	-5.040	.06670	.02630	-.00420	.09270	.02621	-.00270	.00100	.11100	.67600	.01631
.201	.010	.06460	.03230	.00030	.06460	.03226	.00030	-.00140	.00000	.65000	.01600
.201	5.060	.06590	.02760	-.00330	.06590	.02752	.00400	-.00370	-.11000	.67480	.01647
.201	10.110	.09350	.01640	-.00660	.09350	.01632	.00320	-.00330	-.22400	.67300	.01994
GRADIENT		-.00067	-.00007	.00009	-.00067	-.00007	.00066	-.00047	-.02108	-.00000	-.00000

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 OAT1A

PAGE 17

OAT1A B16C5 D7 F1J14R7 E18V3R3X10

(RDS021) (10 OCT 73)

REFERENCE DATA

BREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDBRK = .000 NACK/L = .000

RUN NO. 21/ 0 RN/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.120	.09340	.09340	.02130	.59330	-.01260	-.00190	.01470	.22400	.64700	.02163
.201	-5.060	.06690	.10160	.02530	.59490	-.00585	-.00110	.00770	.11100	.64400	.01842
.201	-.010	.06360	.10670	.02890	.59330	-.00769	.00010	-.00190	.00300	.64200	.01690
.201	5.030	.06580	.10220	.02490	.59470	-.00545	.00130	-.01070	-.10200	.64500	.01846
.201	10.100	.06360	.09330	.02140	.59140	-.01165	.00290	-.01610	-.21600	.64700	.02161
GRADIENT	-.00004	.00004	.00004	-.00010	-.00022	.00004	.00024	-.00162	-.00087	.00010	.00001

OAT1A B16C5 D7 F1J14R7 E18V3R3X10

(RDS022) (10 OCT 73)

REFERENCE DATA

BREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDBRK = .000 NACK/L = .000

RUN NO. 22/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.060	-.11500	.03440	-.00930	-.11710	.02621	.00110	-.00120	-.00300	.63100	.01330
.201	-1.990	-.01400	.03060	-.00360	-.01500	.02014	.00100	-.00110	-.00300	.67300	.01350
.201	-.970	.03440	.03010	-.00070	.03390	.03071	.00070	-.00130	-.00200	.66700	.01569
.201	.060	.06730	.03070	.00260	.06740	.03063	.00070	-.00130	-.00200	.64800	.01367
.201	1.090	.13320	.03230	.00530	.13380	.02977	.00070	-.00140	-.00200	.64500	.01554
.201	2.130	.18310	.03430	.00800	.18410	.02746	.00060	-.00160	-.00100	.64400	.01577
.201	4.200	.26250	.04220	.01390	.26480	.02144	.00060	-.00190	.00000	.64200	.01557
.201	6.270	.36140	.05550	.01760	.36520	.01350	.00020	-.00210	.00100	.64300	.01519
.201	8.340	.48990	.07600	.02300	.49180	.00477	.00020	-.00180	.00000	.64300	.01601
.201	10.430	.56910	.10570	.02650	.59830	-.00271	.00010	-.00160	.00100	.64200	.01724
.201	12.510	.69190	.13950	.03550	.70570	-.01367	.00030	-.00100	.00000	.64100	.01876
.201	14.580	.79030	.17870	.04220	.80980	-.02597	.00050	-.00110	.00000	.64100	.02103
.201	16.660	.86850	.22000	.04750	.91630	-.03674	.00160	-.00200	.00000	.64100	.02274
.201	18.760	.97660	.31230	.04340	1.02320	-.01846	.00130	-.00000	.00000	.64400	.02654
.201	20.820	1.04310	.30510	.04710	1.11370	-.01149	.00110	-.00000	.00000	.64100	.03184
.201	22.890	1.09140	.44700	.05680	1.17940	-.01207	.00110	-.00110	.00100	.64200	.03446
.201	24.900	1.13220	.50720	.06630	1.24030	-.01602	.00240	-.00320	.00400	.64000	.03937
.201	26.910	1.15160	.55740	.08570	1.26140	-.01519	.00040	-.00170	.00000	.63900	.04675
.201	28.930	1.14440	.60990	.10100	1.29660	-.02035	.00070	-.00010	.00000	.63200	.05110
.201	30.990	1.15110	.66520	.11120	1.32930	-.02252	.00090	-.00010	.00000	.63000	.05417
GRADIENT	.04798	.00094	.00094	.00281	.04851	-.00026	-.00006	-.00009	.00064	.00376	.00003

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 OAT1A

PAGE 18

OAT1A 816C5 D7 F1J14M87 E18V83X10

(R05023) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 88.FT. XMRP = 43.9974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
ELEVON = .000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .200

RUN NO. 23/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.080	-.11700	.03530	-.00560	-.11920	.02687	.00140	-.00130	-.00800	.64200	.01546
.201	-2.050	-.01770	.03110	-.00190	-.01880	.03051	.00180	-.00120	-.00700	.62300	.01812
.201	-.980	.03320	.03100	.00000	.03480	.03166	.00150	-.00140	-.00700	.65900	.01375
.201	.080	.06320	.03150	.00230	.08320	.03141	.00120	-.00140	-.00600	.64900	.01355
.201	1.090	.13210	.03310	.00430	.13280	.03062	.00100	-.00130	-.00400	.64800	.01350
.201	2.120	.18150	.03320	.00690	.18270	.02848	.00080	-.00150	-.00300	.64600	.01359
.201	4.160	.27910	.04250	.01140	.28050	.02216	.00060	-.00140	-.00300	.64500	.01379
.201	6.280	.37640	.05640	.01430	.38320	.01468	.00040	-.00190	-.00100	.64600	.01378
.201	8.340	.47940	.07840	.01770	.48470	.00815	.00030	-.00190	.00000	.64600	.01657
.201	10.390	.57760	.10720	.02190	.58770	.00115	.00030	-.00160	.00000	.64600	.01735
.201	12.500	.67990	.14160	.02930	.69440	-.00665	.00020	-.00150	.00000	.64600	.01899
.201	14.580	.78170	.18190	.03680	.80230	-.02053	.00000	-.00160	.00100	.64600	.02127
.201	16.640	.88160	.22970	.03410	.91040	-.03241	.00040	-.00220	.00000	.64600	.02376
.201	18.740	.98160	.30340	.03360	1.02700	-.02817	.00050	-.00210	.00000	.64600	.02882
.201	20.790	1.02700	.37890	.03750	1.09450	-.01042	.00000	-.00150	.00000	.64700	.03119
.201	22.830	1.07560	.45900	.04720	1.16010	-.01654	.00140	-.00070	.00400	.64500	.03454
.201	24.870	1.09160	.49000	.06000	1.19640	-.01468	.00130	-.00350	.00700	.64200	.03896
.201	26.910	1.13360	.55640	.08720	1.26280	-.01717	.00140	-.00480	.00700	.64000	.04615
.201	28.940	1.14000	.61040	.08250	1.29300	-.01753	.00150	-.00380	.00300	.63700	.05054
.201	30.940	1.13160	.65860	.09330	1.30920	-.01750	.00000	-.00340	.00200	.63500	.05460
GRADIENT		.04793	.00390	.00208	.04849	-.00355	-.00010	-.00012	.00072	.00110	-.00003

OAT1A 816C5 D7 F1J14M87 E18V83X10

(R05024) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 88.FT. XMRP = 43.9974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BDFLAP = -16.000
ELEVON = .000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .200

RUN NO. 24/ 0 RN/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.110	.09960	.01810	-.00560	.09960	.01798	-.00560	.00130	.21900	.68400	.01962
.201	-5.050	.09000	.02720	-.00070	.09000	.02714	-.00330	.00120	.11700	.68200	.01629
.201	.000	.06410	.03110	.00330	.06410	.03109	.00120	-.00130	-.01700	.64500	.01572
.201	5.050	.06590	.02630	-.00120	.06590	.02620	.00030	-.00350	-.01300	.66400	.01663
.201	10.120	.06060	.01670	-.00750	.06060	.01668	.00000	-.00200	-.02300	.68000	.01982
GRADIENT		-.00041	-.00009	-.00205	-.00041	-.00009	.00065	-.00047	-.00020	.00020	.00003

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 706 ON71A

PAGE 19

ON71A 816C5 D7 F1J14M87 E18V3R3X10

(RDS028) (10 OCT 75)

REFERENCE DATA

BREF = 4.4122 84.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -18.000
 ELEVON = .000 AIRLON = .000
 VTLINE = .000 RUDDER = .000
 SPOBRK = .000 NACK/L = .200

RUN NO. 25/ 0 RN/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CDF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.100	.56600	.09620	.01390	.59370	-.01155	-.00310	.01450	.22400	.63100	.02210
.201	-5.040	.56380	.10130	.01870	.59250	-.00820	-.00190	.00850	.11000	.64600	.01936
.201	.020	.57630	.10710	.02130	.56610	.00097	.00090	-.00160	.00100	.64600	.01734
.201	5.050	.57810	.10280	.01830	.58720	-.00353	.00280	-.01080	-.10400	.64300	.01834
.201	10.110	.57960	.09520	.01430	.58720	-.01133	.00310	-.01640	-.22200	.63100	.02213
GRADIENT	-.00037	.00015	-.00002	-.00002	-.00053	.00027	.00000	-.00189	-.02121	-.00000	-.00010

ON71A 816C5 D7 F1J14M87 E18V3R3X10

(RDS026) (10 OCT 75)

REFERENCE DATA

BREF = 4.4122 84.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = 5.000 AIRLON = .000
 VTLINE = .000 RUDDER = .000
 SPOBRK = .000 NACK/L = .200

RUN NO. 26/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.030	-.00830	.03340	-.05240	-.01060	.03202	.00140	-.00120	-.00700	-1.09600	.01635
.201	-1.940	.09240	.03260	-.04940	.09130	.03572	.00120	-.00140	-.00150	.83300	.01866
.201	-.890	.14100	.03430	-.04740	.24040	.03690	.00130	-.00120	-.00150	.78000	.01016
.201	.120	.19030	.03630	-.04530	.19040	.03594	.00000	-.00130	-.00130	.74200	.01633
.201	1.160	.23770	.03940	-.04330	.23020	.03460	.00110	-.00130	-.00120	.72300	.01025
.201	2.190	.26650	.04350	-.04100	.28000	.03250	.00110	-.00130	-.00120	.71000	.01748
.201	4.230	.36230	.05450	-.03640	.30530	.02594	.00000	-.00160	.00000	.60300	.01776
.201	6.350	.48340	.07200	-.03330	.40040	.01011	.00090	-.00160	.00000	.60400	.01770
.201	8.410	.57690	.09750	-.02930	.50700	.01172	.00080	-.00140	.00000	.67000	.01854
.201	10.480	.67570	.12950	-.02470	.60000	.00446	.00000	-.00100	.00000	.67200	.01933
.201	12.570	.78150	.16720	-.02030	.70310	-.00689	.00040	-.00140	.00000	.66900	.02260
.201	14.650	.87950	.21130	-.01510	.80430	-.01809	.00040	-.00130	.00000	.66500	.02393
.201	16.720	.98070	.26450	-.01210	1.01340	-.02882	.00190	-.00260	.00000	.66400	.02636
.201	18.800	1.03740	.34040	-.01110	1.11070	-.01868	.00090	-.00220	-.00150	.66300	.03007
.201	20.840	1.09910	.41550	-.00460	1.17590	-.00284	.00090	.00000	.00000	.66100	.03412
.201	22.890	1.14410	.47410	.01010	1.23050	-.00625	.00090	-.00190	.00000	.65700	.03818
.201	24.930	1.15540	.52860	.02570	1.27050	-.00771	.00200	-.00130	.00000	.65200	.04362
.201	26.990	1.17990	.58850	.03600	1.31590	-.01111	.00190	-.00130	.00000	.64900	.05093
.201	28.930	1.19030	.64510	.05320	1.35430	-.01285	.00200	.00000	.00000	.64500	.05557
.201	30.970	1.17690	.69070	.06910	1.36450	-.01361	.00030	.00040	.00000	.64100	.06147
GRADIENT	.04714	.00256	.00000	.00195	.04776	-.00002	-.00006	-.00000	.00000	.15764	-.00011

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 20

ON71A 816C5 D7 F1J14W87 E194J3R3X10

(RDS027) (10 OCT 73)

REFERENCE DATA

SRP = 4.4122 90.FT. XMRP = 43.5974 INCHES
LRP = 19.2299 INCHES YMRP = .0000 INCHES
SRP = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0403 SCALE

PARAMETRIC DATA

BETA = .000 DDFLAP = -18.000
ELEVON = .000 AILRON = 5.000
VTLINE = .000 RUDDER = .000
SPDBK = .000 NACK/L = .200

RUN NO. 27/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CF	CAF	CYN	CSL	CY	XCP/L	CAO
.201	-4.100	-1.1660	.03760	-.00370	-.12120	.02920	.00500	.01460	-.02300	.64600	.01585
.201	-2.010	-.01720	.03360	.00000	-.01640	.03325	.00330	.01690	-.02400	.66000	.01602
.201	-.570	.03200	.03360	.00190	.03150	.03416	.00570	.01920	-.02600	.63600	.01573
.201	.060	.06200	.03330	.00390	.06210	.03327	.00590	.01980	-.02700	.64200	.01665
.201	1.090	.12640	.03550	.00590	.12900	.03509	.00570	.01980	-.02500	.64300	.01576
.201	2.110	.17820	.03720	.00810	.17940	.03561	.00560	.02030	-.02600	.64300	.01647
.201	4.180	.27510	.04500	.01260	.27770	.02485	.00520	.02020	-.02500	.64300	.01026
.201	6.270	.37600	.05790	.01630	.38010	.01653	.00550	.02030	-.02400	.64400	.01679
.201	8.320	.47210	.07970	.02020	.47870	.01052	.00560	.02070	-.02600	.64400	.01664
.201	10.410	.57230	.10900	.02430	.58280	.00366	.00560	.02060	-.02700	.64500	.01714
.201	12.490	.67450	.14260	.02930	.68940	-.00665	.00610	.02070	-.02900	.64400	.01940
.201	14.560	.77770	.18210	.03460	.79830	-.01923	.00630	.02070	-.03200	.64400	.02223
.201	16.640	.87980	.23120	.03800	.90920	-.03049	.00600	.01930	-.03000	.64500	.02396
.201	18.720	.97160	.30410	.03550	1.01780	-.02394	.01150	.02460	-.04200	.64700	.02606
.201	20.780	1.05620	.37640	.03990	1.10230	-.01590	.00520	.01960	-.02600	.64700	.03200
.201	22.840	1.07800	.43730	.04910	1.16320	-.01551	.00260	.01520	-.01900	.64400	.03566
.201	24.860	1.09710	.49270	.05940	1.20250	-.01421	.00150	.00960	-.00600	.64200	.04186
.201	26.930	1.12580	.55450	.07000	1.23490	-.01350	.00110	.00590	.00000	.64000	.04646
.201	28.940	1.14040	.61060	.08420	1.25930	-.01727	.00100	.00620	.00300	.63600	.03267
.201	30.950	1.15990	.66260	.09430	1.31500	-.01590	.00030	.00640	.00200	.63400	.03422
	GRADIENT	.04731	.00066	.06196	.04611	-.00054	.00005	.00021	-.00007	-.00113	.00006

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 706 ON71A

PAGE 19

ON71A B16C5 D7 F1J14487 E18V3R3X10

(RDS025) (10 OCT 73)

REFERENCE DATA

BRD7 = 4.4122 84. FT. YMRP = 43.5974 INCHES
 LWR7 = 19.2299 INCHES YMRP = .0000 INCHES
 BRD7 = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 25/ 0 RN/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPCBRK = .000 NACK/L = .200

MACH	BETA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.100	.09600	.01390	.59370	-.01155	-.00310	.01450	.22400	.85100	.02210
.201	-5.040	.03380	.01870	.59250	-.00620	-.00190	.00630	.11000	.64800	.01936
.201	.020	.07630	.02150	.58610	.00097	.00090	-.00160	.00100	.64600	.01734
.201	5.050	.07610	.01850	.58720	-.00353	.00280	-.01080	-.15400	.64800	.01834
.201	10.110	.07960	.01430	.58720	-.01133	.00510	-.01840	-.22200	.65100	.02213
GRADIENT	-.00037	.00015	-.00002	-.00053	.00027	.00047	-.00189	-.02121	-.00000	-.00010

ON71A B16C5 D7 F1J14487 E18V3R3X10

(RDS026) (10 OCT 73)

REFERENCE DATA

BRD7 = 4.4122 84. FT. YMRP = 43.5974 INCHES
 LWR7 = 19.2299 INCHES YMRP = .0000 INCHES
 BRD7 = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 26/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPCBRK = .000 NACK/L = .200

MACH	ALPHA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.030	.00830	.03340	-.01080	.03202	.00140	-.00120	-.00700	-1.09600	.01836
.201	-1.940	.02240	.03260	.09130	.03572	.00120	-.00140	-.00500	.85300	.01868
.201	-.690	.04100	.03430	.44040	.03650	.00130	-.00120	-.00500	.78000	.01616
.201	.120	.09030	.03630	.19040	.03594	.00390	-.00130	-.00300	.74500	.01853
.201	1.160	.23770	.03940	.23820	.03460	.00110	-.00130	-.00200	.72500	.01625
.201	2.190	.28650	.04350	.28800	.03250	.00110	-.00130	-.00200	.71000	.01748
.201	4.250	.38230	.04450	.30530	.02594	.00390	-.00160	-.00300	.60300	.01776
.201	6.350	.46340	.07200	.48040	.01611	.00090	-.00150	.00000	.60400	.01778
.201	8.410	.57690	.09750	.50700	.01172	.00380	-.00140	.00000	.67800	.01854
.201	10.480	.67570	.12950	.60300	.00446	.00060	-.00100	.00100	.67200	.01933
.201	12.570	.76150	.16720	.70310	-.00689	.00040	-.00140	.00200	.66900	.02260
.201	14.650	.87950	.21130	.79430	-.01809	.00040	-.00130	.00200	.66500	.02393
.201	16.720	.98070	.26450	1.01540	-.02882	.00090	-.00260	.00000	.66400	.02636
.201	18.800	1.05740	.34040	1.11070	-.01858	.00890	.00750	-.01500	.66300	.03007
.201	20.840	1.09910	.41550	1.17500	-.00284	.00090	.00000	.00000	.66300	.03412
.201	22.890	1.14410	.47410	1.23830	-.00625	.00090	-.00190	.00000	.66300	.03818
.201	24.930	1.19540	.52860	1.27030	-.00771	.00200	-.00190	.00000	.66300	.04362
.201	26.990	1.17990	.58850	1.31220	-.01111	.00190	-.00350	.00000	.66300	.05093
.201	28.970	1.19030	.64510	1.35430	-.01285	.00200	.00000	.00000	.66300	.05557
.201	30.970	1.17690	.69070	1.36430	-.01361	.00030	.00040	.00000	.66300	.06047
GRADIENT	.04714	.00256	.00195	.04778	-.00082	-.00006	-.00003	.00005	.15764	-.00011

DATE 13 NOV 73

TABULATED SOURCE DATA - NAAL 706 ON71A

PAGE 20

ON71A B16C5 D7 F1J14W87 E19V3R3X10

(RDS027) (10 OCT 73)

REFERENCE DATA

SRCP = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
LRCP = 19.8299 INCHES YMRP = .0000 INCHES
BRCP = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0403 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
ELEVON = .000 AILRON = 5.000
VTLINE = .000 RUDDER = .000
APDBRK = .000 MACX/L = .200

RUN NO. 27/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.0C/ 5.00

NACH	ALPHA	CL	COF	CLM	CN	CAF	CYN	CEL	CY	XCP/L	CAB
.201	-4.100	-.11880	.03780	-.00370	-.12120	.02920	.00500	.01880	-.02500	.64800	.01585
.201	-2.010	-.01720	.03380	.00000	-.01840	.03325	.00550	.01890	-.02400	.66000	.01802
.201	-.170	.03200	.03380	.00190	.03150	.03416	.00970	.01920	-.02800	.63800	.01573
.201	.080	.08200	.03330	.00390	.08210	.03327	.00590	.01980	-.02700	.64200	.01685
.201	1.090	.12840	.03550	.00390	.12960	.03309	.00570	.01980	-.02500	.64300	.01576
.201	2.110	.17820	.03720	.00810	.17940	.03061	.00560	.02030	-.02600	.64300	.01647
.201	4.180	.27510	.04500	.01260	.27770	.02485	.00540	.02030	-.02300	.64300	.01826
.201	6.270	.37800	.05790	.01630	.38010	.01653	.00550	.02030	-.02400	.64400	.01679
.201	8.320	.47210	.07970	.02020	.47870	.01052	.00560	.02070	-.02600	.64400	.01664
.201	10.410	.57250	.10900	.02430	.58280	.00566	.00560	.02080	-.02700	.64500	.01714
.201	12.490	.67420	.14260	.02950	.68940	-.00665	.00610	.02080	-.02900	.64400	.01940
.201	14.560	.77770	.18210	.03460	.79850	-.01923	.00630	.02070	-.03200	.64400	.02223
.201	16.640	.87980	.23120	.03600	.90920	-.03049	.00650	.01930	-.03000	.64500	.02396
.201	18.720	.97160	.30410	.03950	1.01780	-.02594	.01150	.02480	-.04200	.64700	.02806
.201	20.780	1.05620	.37640	.03950	1.10230	-.01990	.00520	.01980	-.02600	.64700	.03200
.201	22.840	1.07800	.43730	.04910	1.16320	-.01551	.00280	.01520	-.01900	.64400	.03566
.201	24.860	1.09710	.49270	.05940	1.20250	-.01421	.00110	.00980	-.00600	.64200	.04186
.201	26.930	1.12580	.54450	.07000	1.25490	-.01550	.00110	.00590	.00000	.64000	.04846
.201	28.940	1.14040	.61080	.08420	1.29350	-.01727	.00100	.00620	.00300	.63600	.05287
.201	30.950	1.13350	.66280	.09430	1.31500	-.01590	.00130	.00640	.00500	.63400	.05422
.201	GRADIENT	.04751	.00086	.06196	.04811	-.00054	.00205	.00021	-.00007	-.00113	.00006

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL T06 ON71A

PAGE 21

ON71A 816C3 D7 F1J14M87 E16V3R3X10

(RDS028) (10 OCT 73)

REFERENCE DATA

BRDF = 4.4122 94.FT. XMRP = 43.5974 INCHES
 UNDF = 19.3299 INCHES YMRP = .0000 INCHES
 BRDF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = -10.000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDRK = .000 NACK/L = .200

RUN NO. 28/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.201	-4.200	-.32140	.05360	.08970	-.32450	.02994	.00150	-.00250	-.00400	.75400	.01093
.201	-2.120	-.22250	.04370	.08930	-.22390	.03543	.00140	-.00210	-.00400	.80200	.01119
.201	-1.070	-.16980	.04040	.09180	-.17050	.03726	.00130	-.00210	-.00300	.85200	.01121
.201	-.050	-.12130	.03760	.09400	-.12140	.03753	.00120	-.00190	-.00200	.93600	.01127
.201	.970	-.07160	.03560	.09650	-.07100	.03689	.00110	-.00180	-.00200	1.14600	.01147
.201	2.030	-.02180	.03470	.09860	-.02040	.03547	.00110	-.00170	-.00100	2.38900	.01180
.201	4.080	.07960	.03670	.11450	.07800	.03053	.00100	-.00150	.00000	.16200	.01136
.201	6.150	.17280	.04140	.10870	.17620	.02264	.00100	-.00150	.00000	.43900	.01151
.201	8.210	.26860	.05450	.11360	.27620	.01564	.00120	-.00130	.00100	.51100	.01205
.201	10.300	.37050	.07740	.11710	.37840	.00994	.00110	-.00130	.00300	.54900	.01336
.201	12.380	.47160	.10390	.12240	.48290	.00037	.00110	-.00120	.00100	.56900	.01488
.201	14.460	.57460	.13710	.12720	.59070	-.01068	.00120	-.00150	.00200	.56200	.01655
.201	16.550	.67890	.17690	.13180	.70120	-.02369	.00180	-.00200	.00200	.59200	.01981
.201	18.610	.77260	.23870	.13070	.80840	-.02045	.00940	.00120	-.01000	.60200	.02162
.201	20.700	.85380	.30810	.12880	.90760	-.01351	.00340	-.00200	.00900	.60900	.02478
.201	22.750	.91250	.36540	.12980	.98280	-.01562	.00310	-.00250	.00700	.61200	.02833
.201	24.800	.95610	.42450	.13190	1.04600	-.01584	.00260	-.00160	.00700	.61400	.03378
.201	26.850	1.00060	.49130	.13710	1.12000	-.01634	.00230	-.00210	.00700	.61600	.03793
.201	28.880	1.03870	.55210	.14330	1.17620	-.01632	.00270	.00130	.00300	.61500	.04184
.201	30.900	1.04800	.60430	.15410	1.20960	-.01974	.00130	.00380	.00000	.61400	.04643
GRADIENT		.04811	-.00215	.00226	.04877	.00005	-.00006	.00012	.00053	.02670	.00008

DATE 19 NOV 75

TABULATED SOURCE DATA - NAAL 700 ON71A

PAGE 22

ON71A 816C5 D7 F1J14487 E16VSR3X10

(RDS029) (10 OCT 75)

REFERENCE DATA

WREF = 4.4122 56.17. WREF = 43.5974 INCHES
LREF = 19.2299 INCHES YREF = .0000 INCHES
BREF = 37.9349 INCHES ZREF = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BCFAP = -16.000
ELEVON = -10.000 AILRON = .000
VTLINE = .000 RUDDER = .000
SPDRK = .000 NACK/L = .200

RUN NO. 29/ 0 RW/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CL	CLH	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.200	-.32810	.05280	.06560	-.32910	.02854	.00120	-.00210	-.00700	.75300	.01105
.201	-2.120	-.22850	.04210	.09000	-.22990	.03369	.00130	-.00130	-.00700	.80000	.01124
.201	-1.100	-.17910	.03620	.11000	-.17940	.03482	.00110	-.00140	-.00620	.84300	.01150
.201	-.090	-.12830	.03560	.09470	-.12830	.03549	.00110	-.00130	-.00500	.92400	.01165
.201	.980	-.07660	.03350	.08730	-.07600	.03482	.00110	-.00140	-.00500	1.11700	.01166
.271	1.990	-.02620	.03270	.09940	-.02500	.03361	.00110	-.00130	-.00400	2.07800	.01155
.201	4.080	.07260	.03340	.10440	.07480	.02816	.00090	-.00130	-.00300	.16100	.01152
.201	6.140	.16770	.03910	.10610	.17090	.02096	.00090	-.00130	-.00100	.43300	.01130
.201	8.210	.26300	.03800	.11350	.26770	.01396	.00140	-.00110	-.00200	.30800	.01195
.201	10.290	.36500	.07420	.11710	.37230	.00777	.00110	-.00130	-.00700	.34700	.01283
.201	12.360	.46740	.10140	.12240	.47820	-.00116	.00130	-.00090	-.00100	.56800	.01481
.201	14.470	.57250	.13480	.12710	.58600	-.01253	.00150	-.00130	-.00000	.58200	.01699
.201	16.530	.67930	.17540	.13200	.70110	-.02516	.00160	-.00170	.00000	.59200	.01866
.201	18.650	.77440	.25790	.13100	.80960	-.02249	.00990	-.00130	-.01400	.60200	.02177
.201	20.690	.85700	.30470	.12870	.90940	-.01776	.02800	-.00070	.00300	.60900	.02467
.201	22.730	.91520	.36360	.13010	.98280	-.01756	.00320	-.00230	.00400	.61200	.02695
.201	24.790	.95310	.42010	.13210	1.04150	-.01826	.00260	-.00210	.00500	.61400	.03406
.201	26.820	1.00070	.48780	.13670	1.11320	-.01629	.00150	-.00210	.00700	.61600	.03766
.201	28.870	1.03990	.54860	.14620	1.17200	-.01993	.00150	-.00130	.00800	.61900	.04293
.201	30.903	1.04290	.60090	.15580	1.20350	-.02016	.00030	-.00140	.00270	.61300	.04770
GRADIENT		.04690	-.00232	.00227	.04913	-.00204	-.00004	.00206	.00053	.01053	.00006

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 23

ON71A B16C5 D7 F1J14487 E18VSR3X110

(RDS030) (10 OCT 73)

REFERENCE DATA

SREF = 4.4122 88.FT. XMRP = 43.9974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.1300 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = .000 AIRRON = 10.000
VTLINC = .000 RUDDER = .000
SPCRBK = .000 NACK/L = .200

RUN NO. 30/ 0 RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.201	-4.000	-1.0510	.04300	-.00740	-.10000	.03035	.00830	.03590	-.04000	.63400	.01783
.201	-1.990	-.00400	.04040	-.00340	-.00340	.04030	.00910	.03690	-.04400	.43700	.01788
.201	-.940	.04360	.03960	-.00100	.04490	.04041	.00920	.03730	-.04500	.66700	.01799
.201	.000	.09480	.04080	.00110	.08490	.04073	.00940	.03730	-.04600	.85500	.01785
.201	1.070	.14280	.04250	.00330	.14340	.03982	.00950	.03790	-.04700	.63100	.01766
.201	2.130	.19220	.04490	.00370	.19380	.03776	.00960	.03810	-.04700	.64900	.01774
.201	4.180	.26350	.09220	.01170	.28650	.03140	.00990	.03630	-.05100	.64500	.01747
.201	6.260	.36280	.06560	.01470	.36770	.02352	.00990	.03920	-.05100	.64600	.01746
.201	8.330	.47780	.08790	.01840	.48550	.01770	.01010	.04300	-.05200	.64800	.01791
.201	10.390	.57370	.11570	.02400	.58520	.01033	.01000	.04300	-.05300	.64500	.01846
.201	12.460	.67690	.13030	.02930	.69340	.00045	.01030	.04090	-.05700	.64400	.01935
.201	14.580	.77670	.15080	.03480	.79970	-.01043	.01050	.04020	-.05900	.64400	.02101
.201	16.660	.87540	.23820	.04000	.90700	-.02273	.01040	.03860	-.05900	.64400	.02380
.201	18.720	.96640	.31440	.03840	1.01620	-.01251	.01230	.04210	-.06100	.64600	.02809
.201	20.760	1.01670	.38530	.04240	1.08720	-.00024	.00500	.03060	-.03900	.64600	.03281
.201	22.820	1.06320	.44180	.05270	1.15140	-.00312	.00330	.02710	-.03400	.64300	.03718
.201	24.840	1.08370	.49500	.06300	1.19140	-.00099	.00090	.02380	-.02900	.64100	.04253
.201	26.890	1.11210	.54510	.07470	1.24330	-.00713	.00080	.01810	-.01200	.63800	.04880
.201	28.930	1.13110	.61290	.08910	1.28640	-.01077	.00080	.01360	-.00200	.63500	.05415
.201	30.940	1.12510	.68240	.10330	1.30560	-.01051	-.00090	.01450	.00200	.63200	.05606
.201	GRADIENT	.04703	.00105	.00228	.04775	-.00059	.00016	.00029	-.00102	.01041	-.00003

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 24

ON71A B16C5 D7 F1J14W87 E18V3R3X10

(RDS031) (10 OCT 75)

REFERENCE DATA

SREF = 4.4122 88.FT. XRRP = 43.5974 INCHES
 LREF = 19.2259 INCHES YRRP = .0000 INCHES
 SREF = 37.9349 INCHES ZRRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 SOFLAP = -18.000
 ELEVEN = 10.000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = .000 NACK/L = .200

RUN NO. 31/ 0 RN/L = 1.44 GRADIENT INTERVAL = -9.00/ 9.00

WACH	ALPHA	CL	CDP	CLM	ON	CAF	CYN	CSL	CY	KCP/L	CAB
.201	-3.970	.09890	.03570	-.09770	.09410	.04241	.00130	-.00170	-.00300	1.03000	.02091
.201	-1.900	.18230	.03910	-.09490	.19150	.04555	.00130	-.00180	.00000	.83700	.02087
.201	-.830	.24170	.04280	-.09250	.24110	.04655	.00140	-.00160	-.00100	.79700	.01992
.201	.180	.29000	.04580	-.08990	.29020	.04486	.00120	-.00190	.00100	.77000	.02045
.201	1.200	.33640	.05080	-.08800	.33740	.04377	.00120	-.00190	.00000	.75300	.01984
.201	2.250	.38400	.05630	-.08550	.38390	.04122	.00180	-.00180	.00000	.73900	.01946
.201	4.250	.47440	.07010	-.07970	.47830	.03441	.00130	-.00180	.00000	.71900	.01931
.201	6.360	.57690	.09160	-.07730	.58350	.02693	.00120	-.00170	.00200	.70700	.01921
.201	8.450	.67560	.12070	-.07500	.68400	.02036	.00100	-.00120	.00300	.69800	.01996
.201	10.530	.76780	.15510	-.06690	.78320	.01210	.00040	-.00130	.00400	.69000	.02137
.201	12.610	.86910	.19570	-.06130	.89070	.00125	.00010	-.00100	.00500	.68400	.02357
.201	14.670	.96490	.24330	-.05570	.99510	-.00894	.00010	-.00290	.00500	.68000	.02465
.201	16.770	1.06990	.30310	-.04270	1.11190	-.01854	.00090	-.00270	.00300	.67600	.02846
.201	18.830	1.12260	.36690	-.04850	1.13740	.00375	.00550	.00850	-.01000	.67400	.03317
.201	20.860	1.15780	.43000	-.03570	1.24320	.01065	.00090	.00040	.00400	.67000	.03669
.201	22.910	1.18920	.51010	-.01860	1.29470	.00680	.00090	.00030	.00400	.66500	.04161
.201	24.940	1.20320	.54400	-.00390	1.32690	.00389	.00220	-.00120	.00400	.66000	.04627
.201	26.970	1.21140	.61770	.01790	1.35990	.00112	.00160	-.00140	.00400	.65500	.05426
.201	28.990	1.21990	.67330	.02390	1.39340	-.00241	.00170	.00000	.00300	.65100	.05914
.201	31.000	1.20590	.72270	.04910	1.40990	-.00156	.00000	.00160	.00300	.64700	.06177
GRADIENT		.04561	.00415	.00220	.04662	-.00099	-.00001	-.00012	.00030	-.03426	-.00021

DATE 13 NOV 75

TABULATED SOURCE DATA - NAAL T08 ON71A

PAGE 25

ON71A B16C5 D7 F1J14A87 E16V8R3X10

(R03032) (10 OCT 75)

REFERENCE DATA

SREF = 4.4122 58.171 XREF = 43.5974 INCHES
LREF = 19.2299 INCHES YREF = .0000 INCHES
SREF = 37.9349 INCHES ZREF = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000
ELEVON = -20.000 AILRON = .000
VTILIN = .000 RUDDER = .000
SPDRK = .000 MACK/L = .200

RUN NO. 32/ 0 RV/L = 1.44 GRADIENT INTERVAL = -9.00/ 9.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CV	XCF/L	CAB
.201	-4.290	-.48650	.06140	.15650	-.50320	.04395	.00110	-.00190	-.00800	.77100	.00909
.201	-2.200	-.40190	.06570	.16060	-.40410	.09020	.00100	-.00120	-.00800	.80200	.00904
.201	-1.170	-.35190	.05970	.16260	-.35300	.08255	.00110	-.00100	-.00700	.82400	.00960
.201	-.140	-.30050	.05410	.16470	-.30060	.05345	.00110	-.00070	-.00700	.85500	.00911
.201	-.860	-.25120	.04970	.16710	-.25040	.03563	.00110	-.00060	-.00700	.89600	.00922
.201	1.910	-.20140	.04560	.16950	-.19970	.08257	.00120	-.00050	-.00700	.96300	.00945
.201	3.990	-.10020	.04110	.17410	-.09710	.04804	.00110	-.00070	-.00600	1.30000	.00950
.201	6.080	-.00700	.04120	.17920	-.00260	.04176	.00060	-.00030	-.00400	25.23400	.00945
.201	8.130	.06510	.04660	.19090	.06890	.03437	.00100	-.00010	-.00300	-.10600	.00984
.201	10.200	.17390	.06030	.19610	.18190	.02662	.00150	-.00020	-.00200	.27000	.01061
.201	12.250	.27040	.09150	.20470	.26160	.02222	.00150	-.00050	-.00200	.40000	.01204
.201	14.340	.37290	.10890	.21080	.36820	.01313	.00200	-.00090	-.00090	.46500	.01392
.201	16.430	.47330	.14080	.21970	.49390	.00116	.00230	-.00100	.00000	.50000	.01649
.201	18.520	.57050	.19350	.21430	.60840	.00021	.00730	-.00110	-.00700	.53400	.01842
.201	20.590	.66840	.25080	.21420	.71390	-.00039	.17250	-.00060	.00000	.55200	.02162
.201	22.640	.74260	.30460	.21040	.80260	-.00480	.00370	-.00140	.00100	.56600	.02518
.201	24.700	.79860	.36540	.20920	.87830	-.00171	.00220	-.00170	.00300	.57600	.02922
.201	26.780	.85460	.42800	.20680	.95580	-.00265	.00240	-.00160	.00300	.58200	.03325
.201	28.800	.89640	.48630	.21190	1.02080	-.00406	.00190	-.00110	.00100	.58900	.03595
.201	30.830	.92430	.54400	.21750	1.07250	-.00665	.00140	-.00140	-.00200	.58700	.04144
GRADIENT		.01828	-.00486	.00212	.04922	.00051	.00001	.00015	.00028	.5790	.00007

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 26

ON71A B16C5 D7 F1J14N87 E16VSE3X10

(RDS033) (10 OCT 75)

REFERENCE DATA

WWP = 4.4122 88.17. WWP = 45.9974 INCHES
 LWP = 19.2299 INCHES YWP = .0000 INCHES
 WWP = 37.9349 INCHES ZWP = 18.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000
 ELEVON = .000 AILRON = 15.000
 VTLINE = .000 RUDDER = .000
 SPDRK = .000 NACK/L = .200

RUN NO. 33/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.801	-4.070	-.08960	.08290	-.01210	-.10330	.04574	.01060	.05370	-.06500	.61700	.01930
.801	-1.990	-.00400	.05060	-.00720	-.00570	.07046	.01140	.05430	-.06300	.20900	.01627
.801	-.940	.04470	.04980	-.00490	.04320	.03072	.01170	.05540	-.06600	.69800	.01911
.801	.070	.08630	.05030	-.00230	.09630	.05043	.01200	.05580	-.06800	.66700	.01923
.801	1.100	.14230	.03840	.00090	.14330	.04966	.01220	.05590	-.06800	.65700	.01847
.801	2.120	.18940	.05430	.00360	.19030	.04746	.01250	.05580	-.07000	.65200	.01835
.801	4.200	.27770	.08250	.01040	.28160	.04204	.01260	.05590	-.07000	.64600	.01756
.801	6.290	.37960	.07390	.01170	.38480	.03416	.01340	.05710	-.07500	.64900	.01814
.801	8.300	.47920	.06670	.01600	.48440	.02812	.01390	.05900	-.07900	.64800	.01879
.801	10.390	.57290	.12630	.02070	.58630	.02111	.01370	.06000	-.08000	.64700	.01937
.801	12.490	.67160	.16090	.02700	.69040	.01153	.01360	.05920	-.08400	.64500	.02026
.801	14.580	.76820	.20390	.03280	.79300	.00097	.01360	.05790	-.08700	.64300	.02446
.801	16.680	.86890	.24700	.04110	.90110	-.01175	.01360	.05520	-.09000	.64300	.02836
.801	18.700	.94820	.32220	.03770	1.00240	.00081	.01220	.05520	-.09000	.64000	.03413
.801	20.770	.99160	.36990	.04910	1.08510	.01166	.00560	.04190	-.09600	.64200	.03743
.801	22.810	1.03820	.44250	.05990	1.12500	.00632	.00330	.03700	-.09600	.64200	.03743
.801	24.860	1.08370	.49600	.06700	1.17370	.00272	.00040	.03320	-.09400	.63900	.04489
.801	26.990	1.08090	.55310	.07990	1.21960	.00166	.00040	.02720	-.09000	.63600	.04949
.801	28.860	1.11010	.61140	.09160	1.26730	-.00173	.00010	.02300	-.08300	.63400	.05395
.801	30.960	1.11250	.66290	.10460	1.29900	-.00395	-.00110	.02230	-.08300	.63100	.05799
.801	GRADIENT	.04992	.00113	.00272	.04661	-.00045	.00023	.00024	-.00129	.02210	-.00017

DATE 15 NOV 73

TABULATED SOURCE DATA - NAL 706 ON71A

PAGE 27

ON71A 816C5 D7 F1J17487 E16V83K10

(RDS035) (10 OCT 73)

REFERENCE DATA

9407 = 4.4122 38. FT. 300P = 43.5974 INCHES
LREF = 19.2299 INCHES 176P = .0000 INCHES
9407 = 37.9349 INCHES 240P = 16.2000 INCHES
SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
ELEVON = .000 AILRON = 15.000
VTLINC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .200

PARAMETRIC DATA

RUN NO. 35/ 0 RM/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	C _i	XCF/L	CAB
.201	-4.060	-1.0480	.09000	-.01060	-.10600	.04247	.01110	.05540	-.06000	.62300	.01787
.201	-1.990	-.00740	.04690	-.00760	-.00900	.04871	.01160	.09620	-.06300	.35700	.01773
.201	-.950	.04160	.04650	-.00370	.04060	.04724	.01170	.05660	-.06400	.71000	.01776
.201	.070	.08810	.04750	-.00320	.08220	.04722	.01210	.09690	-.06600	.67200	.01753
.201	1.100	.14050	.04690	-.00120	.14180	.04824	.01240	.05690	-.06700	.66300	.01789
.201	2.120	.18600	.05150	.00160	.18780	.04463	.01260	.05700	-.06900	.65800	.01716
.201	4.190	.28070	.05610	.00690	.28380	.03745	.01290	.15700	-.07000	.65100	.01805
.201	6.270	.37840	.07050	.00930	.36390	.02921	.01330	.05800	-.07400	.65100	.01831
.201	8.340	.46350	.08300	.01060	.49190	.02183	.01370	.06100	-.07900	.65200	.01799
.201	10.410	.53840	.11500	.01740	.59440	.01175	.01400	.06230	-.08300	.64900	.01692
.201	12.560	.60650	.13590	.02340	.70350	.00098	.01420	.06350	-.08500	.64800	.01909
.201	14.970	.78280	.19270	.02870	.80610	-.01050	.01430	.06320	-.08800	.64700	.02091
.201	16.980	.87590	.23750	.03750	.90530	-.02297	.01430	.06210	-.09100	.64500	.02378
.201	18.720	.96030	.30690	.03460	1.00750	-.01796	.01830	.06070	-.09700	.64700	.02632
.201	20.800	1.02750	.36780	.04340	1.09110	-.02118	.01140	.05390	-.07700	.64500	.03145
.201	22.840	1.07130	.42780	.03200	1.15330	-.02184	.00720	.04410	-.06000	.64300	.03442
.201	24.830	1.06970	.48520	.06170	1.19270	-.01842	.00290	.03120	-.03600	.64100	.04070
.201	26.910	1.10560	.54440	.06600	1.23230	-.01501	.00250	.02390	-.02200	.64000	.04349
.201	28.940	1.13570	.60720	.07790	1.28770	-.01835	.00290	.02100	-.01800	.63800	.05355
.201	30.960	1.14500	.66220	.09010	1.32250	-.02115	.00180	.01710	-.00600	.63500	.05684
GRADIENT		.04683	.00102	.00217	.04765	-.00058	.00023	.00019	-.00127	.01533	-.00001

DATE 18 NOV 73 TABULATED SOURCE DATA - NAAL Y08 ON71A

ON71A 810CS 07 P1J17A37 E10V2K3110

(RC9037) (18 OCT 73)

REFERENCE DATA

REF = 4.4122 11.171
 LREF = 19.2299 INCHES
 REF = 37.9349 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000
 ELEVON = -20.000
 VTILINC = .000
 RUDDER = .000
 NACK/L = .200

RUN NO. 37/ 0 RUN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CLP	CLM	CM	CAP	CYM	CSL	CY	NCPL/L	CAB
.001	-4.280	-5.1110	.07920	.19130	-.51960	.04100	.00130	-.00320	-.00500	.77100	.00989
.001	-2.210	-.40400	.06430	.18140	-.40820	.04860	.00020	-.00110	-.00200	.60200	.00970
.001	-1.130	-.35310	.05950	.16400	-.35420	.05144	.00050	-.00110	-.00300	.82500	.00978
.001	-.130	-.30820	.05820	.16370	-.30530	.05173	.00050	-.00110	-.00400	.65400	.00969
.001	.890	-.25410	.04600	.16310	-.25330	.05201	.00050	-.00100	-.00300	.89700	.00990
.001	1.800	-.20400	.04420	.17030	-.20240	.05103	.00060	-.00030	-.00300	.94000	.00972
.001	3.890	-.10370	.03940	.17450	-.10070	.04857	.00040	-.00030	-.00300	1.17900	.00944
.001	6.050	-.01320	.03670	.18030	-.00900	.03993	.00050	-.00020	-.00300	7.76900	.00911
.001	8.130	.06040	.04330	.19980	.06570	.03149	.00060	.00020	.00000	-.12900	.00944
.001	10.320	.17400	.03510	.19960	.18100	.02336	.00100	-.00030	.00000	.26500	.01110
.001	12.390	.27220	.07360	.20760	.28160	.01400	.00100	-.00050	.00000	.39600	.01242
.001	14.350	.36960	.09790	.21440	.36830	.00317	.00120	-.00030	.00000	.45900	.01403
.001	16.430	.46740	.12900	.22200	.46480	-.00942	.00160	-.00010	.00000	.49600	.01597
.001	20.600	.67260	.25960	.21290	.71290	-.01493	.00330	-.00060	-.00300	.55300	.02026
.001	22.870	.78240	.26960	.21110	.67600	-.02260	.00340	-.00240	.00000	.50600	.02324
.001	24.740	.82260	.30390	.20150	.66540	-.02308	.00400	-.00430	.00300	.57900	.02734
.001	26.780	.67660	.41620	.19770	.97120	-.02177	.00270	-.00370	.00400	.58700	.03263
.001	28.840	.98470	.48500	.20030	1.04250	-.02360	.00450	-.00400	.00000	.59100	.03614
.001	30.860	.99890	.54460	.20120	1.10720	-.02308	.00500	-.00310	.00100	.59400	.03924
.001	GRADIENT	.04980	-.00496	.00173	.09112	.00062	-.00009	.00031	.00014	.05600	-.00002

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL T06 CAT1A

PAGE 29

CAT1A B16C5 D7 F1J17A07 E16V503010

(0040000) (10 OCT 75)

REFERENCE DATA

REF = 4.4122 96.FT. 344P = 43.9874 INCHES
LREF = 19.8299 INCHES YREF = .0000 INCHES
REF = 37.9349 INCHES ZREF = 16.8000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 50FLAP = -18.000
ELEVON = 10.000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .000

RUN NO. 36/ 0 RW/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

NACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CEL	CT	XCP/L	CAS
.201	-3.960	.00650	.03590	-.09760	.06600	.03696	.00790	-.00170	.00000	1.04900	.02096
.201	-1.960	.10670	.03560	-.09590	.10740	.04206	.00060	-.00160	.00100	.04120	.02022
.201	-.960	.24010	.03910	-.09360	.23950	.04299	.00060	-.00160	.00000	.09900	.01969
.201	.160	.26710	.04250	-.09140	.29720	.04197	.00060	-.00160	.00100	.07500	.02001
.201	1.160	.33240	.04710	-.08960	.33330	.04025	.00070	-.00170	.00800	.05600	.01937
.201	2.150	.38130	.05230	-.08720	.36300	.03756	.00070	-.00200	.00800	.04100	.01933
.201	4.150	.47610	.06570	-.08300	.47970	.02994	.00060	-.00190	.00800	.02100	.01932
.201	6.160	.57650	.08340	-.08080	.58240	.02066	.00040	-.00230	.00400	.00900	.01848
.201	8.150	.67930	.11360	-.07630	.66660	.01253	.00030	-.00210	.00300	.00000	.01998
.201	10.150	.77940	.14800	-.07350	.79330	.00906	.00040	-.00240	.00400	.00300	.02023
.201	12.160	.86100	.18760	-.06910	.80370	-.00816	.00040	-.00190	.00400	.00700	.02221
.201	14.160	.97760	.23560	-.06310	1.00540	-.01994	.00030	-.00110	.00800	.00800	.02352
.201	16.160	1.07090	.29970	-.05670	1.10800	-.03176	.00140	-.00160	.00000	.07500	.02816
.201	18.160	1.16200	.35670	-.05360	1.21640	-.03613	.00250	-.00150	.00000	.07500	.02864
.201	20.160	1.19540	.42670	-.05360	1.26600	-.02755	-.00020	-.00260	.00700	.07100	.03219
.201	22.160	1.23900	.48590	-.05250	1.33120	-.02323	.00290	-.00140	.01000	.06700	.03393
.201	24.160	1.24670	.53660	-.05130	1.36610	-.01845	.00250	-.01080	.01400	.06300	.03590
.201	26.160	1.24340	.61500	-.05240	1.36710	-.01813	.00310	-.00590	.01400	.06500	.03642
.201	28.160	1.25290	.67110	.01800	1.42120	-.02060	.00250	-.00340	.00100	.06500	.03642
.201	31.020	1.25920	.71990	.03420	1.43290	-.02166	.00330	-.00160	-.00100	.06100	.06123
.201	GRADIENT	.04690	.00399	.00163	.04764	-.00110	-.00003	-.00003	.00126	-.03750	-.00115

DATE 19 NOV 75

TABULATED SOURCE DATA - NAAL 706 CAT71A

PAGE 30

CAT71A S16C5 D7 F1J17W67 E16V62K110

(0000000) (10 OCT 75)

REFERENCE DATA

SWP = 4.4182 58.47. WWP = 43.2974 INCHES
LWP = 19.2299 INCHES WWP = .0000 INCHES
SWP = 37.8246 INCHES WWP = 16.8000 INCHES
SCALE = .0005 SCALE

SLM NO. 367 0 SML = 1.44 GRADIENT INTERVAL = -3.00/ 5.00

PARAMETRIC DATA

BETA = .000 SDFLAP = -16.000
ELEVON = .000 AILRON = 10.000
VTLINC = .000 RUDDER = .000
SPDRK = .000 MACU/L = .800

INCH	ALPHA	CL	CLP	CLM	CM	CAP	CYM	CEL	CY	NO/L	CAS
.001	-4.070	-.11340	.00000	-.00000	-.11800	.00135	.00790	.00870	-.00000	.63000	.01808
.002	-2.000	-.04000	.00000	-.00000	-.01100	.00004	.00610	.00780	-.04100	.59000	.01794
.003	-.000	.00000	.00000	-.00130	.00000	.00715	.00000	.00780	-.04400	.67000	.01771
.004	.000	.00000	.00000	.00000	.00770	.00001	.00000	.00830	-.04900	.69000	.01766
.005	1.000	.10000	.00000	.00000	.14040	.00000	.00000	.00800	-.04600	.65000	.01831
.006	2.300	.20000	.00000	.00000	.18000	.00000	.00000	.00870	-.04900	.69100	.01791
.007	4.100	.27000	.00000	.00000	.20000	.00000	.00000	.00910	-.04900	.64000	.01748
.008	6.570	.37000	.00000	.00000	.20000	.00000	.00000	.00900	-.05000	.64000	.01808
.009	8.270	.47700	.00000	.00000	.20000	.00000	.00000	.00900	-.05000	.64000	.01808
.010	10.410	.57700	.10000	.00000	.20000	.00117	.00000	.04130	-.05000	.64000	.01818
.011	12.540	.68000	.14000	.00000	.20000	-.01119	.00000	.04100	-.05000	.64000	.01975
.012	14.570	.77000	.18000	.00000	.20000	-.02160	.00000	.04220	-.05000	.64000	.02029
.013	16.570	.87000	.22000	.00000	.20000	-.03400	.00000	.04300	-.05000	.64000	.02336
.014	18.700	.97000	.26000	.00000	.20000	-.05000	.00000	.04400	-.07000	.64000	.02711
.015	20.700	1.07000	.30000	.00000	.20000	-.07000	.00000	.04500	-.09000	.64000	.03006
.016	22.600	1.16000	.34000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.03696
.017	24.500	1.25000	.38000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.04831
.018	26.400	1.34000	.42000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.05900
.019	28.300	1.43000	.46000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.06412
.020	30.200	1.52000	.50000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.06900
.021	32.100	1.61000	.54000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.07400
.022	34.000	1.70000	.58000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.07900
.023	35.900	1.79000	.62000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.08400
.024	37.800	1.88000	.66000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.08900
.025	39.700	1.97000	.70000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.09400
.026	41.600	2.06000	.74000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.09900
.027	43.500	2.15000	.78000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.10400
.028	45.400	2.24000	.82000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.10900
.029	47.300	2.33000	.86000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.11400
.030	49.200	2.42000	.90000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.11900
.031	51.100	2.51000	.94000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.12400
.032	53.000	2.60000	.98000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.12900
.033	54.900	2.69000	1.02000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.13400
.034	56.800	2.78000	1.06000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.13900
.035	58.700	2.87000	1.10000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.14400
.036	60.600	2.96000	1.14000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.14900
.037	62.500	3.05000	1.18000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.15400
.038	64.400	3.14000	1.22000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.15900
.039	66.300	3.23000	1.26000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.16400
.040	68.200	3.32000	1.30000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.16900
.041	70.100	3.41000	1.34000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.17400
.042	72.000	3.50000	1.38000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.17900
.043	73.900	3.59000	1.42000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.18400
.044	75.800	3.68000	1.46000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.18900
.045	77.700	3.77000	1.50000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.19400
.046	79.600	3.86000	1.54000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.19900
.047	81.500	3.95000	1.58000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.20400
.048	83.400	4.04000	1.62000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.20900
.049	85.300	4.13000	1.66000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.21400
.050	87.200	4.22000	1.70000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.21900
.051	89.100	4.31000	1.74000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.22400
.052	91.000	4.40000	1.78000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.22900
.053	92.900	4.49000	1.82000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.23400
.054	94.800	4.58000	1.86000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.23900
.055	96.700	4.67000	1.90000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.24400
.056	98.600	4.76000	1.94000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.24900
.057	100.500	4.85000	1.98000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.25400
.058	102.400	4.94000	2.02000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.25900
.059	104.300	5.03000	2.06000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.26400
.060	106.200	5.12000	2.10000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.26900
.061	108.100	5.21000	2.14000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.27400
.062	110.000	5.30000	2.18000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.27900
.063	111.900	5.39000	2.22000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.28400
.064	113.800	5.48000	2.26000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.28900
.065	115.700	5.57000	2.30000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.29400
.066	117.600	5.66000	2.34000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.29900
.067	119.500	5.75000	2.38000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.30400
.068	121.400	5.84000	2.42000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.30900
.069	123.300	5.93000	2.46000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.31400
.070	125.200	6.02000	2.50000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.31900
.071	127.100	6.11000	2.54000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.32400
.072	129.000	6.20000	2.58000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.32900
.073	130.900	6.29000	2.62000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.33400
.074	132.800	6.38000	2.66000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.33900
.075	134.700	6.47000	2.70000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.34400
.076	136.600	6.56000	2.74000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.34900
.077	138.500	6.65000	2.78000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.35400
.078	140.400	6.74000	2.82000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.35900
.079	142.300	6.83000	2.86000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.36400
.080	144.200	6.92000	2.90000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.36900
.081	146.100	7.01000	2.94000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.37400
.082	148.000	7.10000	2.98000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.37900
.083	150.000	7.19000	3.02000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.38400
.084	151.900	7.28000	3.06000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.38900
.085	153.800	7.37000	3.10000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.39400
.086	155.700	7.46000	3.14000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.39900
.087	157.600	7.55000	3.18000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.40400
.088	159.500	7.64000	3.22000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.40900
.089	161.400	7.73000	3.26000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.41400
.090	163.300	7.82000	3.30000	.00000	.20000	-.09000	.00000	.04600	-.09000	.64000	.41900

CAT1A 810C5 D7 F1J1T487 E18VSRXK.0

(R08040) (10 17 73)

REFERENCE DATA

REF = 4.4122 88.17. YARP = 43.9974 INCHES
REF = 19.2239 INCHES YARP = .0000 INCHES
REF = 37.9348 INCHES ZARP = 18.2000 INCHES
SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
ELEVON = -18.000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRNK = .000 NACK/L = .200

RUN NO. 40/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

WACH	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CEL	CV	XCP/L	CAB
.201	-4.190	-.33640	-.04880	.09950	-.33910	.02444	.00090	-.00190	-.00900	.78400	.01121
.201	-2.130	-.23310	.03960	.09260	-.23440	.03068	.00070	-.00140	-.00400	.80100	.01103
.201	-1.090	-.18020	.03540	.09450	-.18090	.03194	.00060	-.00130	-.00300	.84300	.01096
.201	-.050	-.13590	.03230	.09450	-.13360	.03247	.00060	-.00110	-.00400	.91800	.01116
.201	.970	-.08290	.03050	.09690	-.08230	.03192	.00070	-.00140	-.00300	1.06900	.01123
.201	2.100	-.03270	.02930	.10060	-.03170	.03046	.00060	-.00120	-.00300	1.79700	.01124
.201	4.070	.08840	.02980	.10910	.08730	.02315	.00060	-.00140	.00000	.10100	.01199
.201	6.190	.16340	.03450	.10990	.16820	.01693	.00070	-.00120	-.00100	.42300	.01164
.201	8.230	.28430	.04600	.11410	.26820	.00799	.00060	-.00140	.00000	.90700	.01224
.201	10.300	.36930	.06000	.11960	.36090	.00223	.00070	-.00130	.00000	.94300	.01269
.201	12.360	.46550	.08100	.12590	.47420	-.01092	.00070	-.00140	.00000	.96500	.01430
.201	14.460	.58060	.12230	.13090	.56230	-.02324	.00130	-.00140	.00000	.57900	.01595
.201	16.540	.67280	.16240	.13540	.69120	-.03569	.00130	-.00090	.00000	.59900	.01836
.201	18.600	.76460	.20960	.13940	.79350	-.04763	.00100	-.00000	-.00100	.59700	.02044
.201	20.710	.86050	.26670	.12950	.90700	-.05437	.00060	-.00000	-.00300	.80900	.02373
.201	22.790	.96120	.34910	.13000	.99370	-.03640	.00310	-.00180	.00000	.61300	.02551
.201	24.810	.96970	.41360	.12770	1.06790	-.03926	.00310	-.00640	.00700	.61700	.03174
.201	26.860	1.01620	.47770	.12690	1.12240	-.03302	.00290	-.00500	.00400	.61800	.03747
.201	28.990	1.09190	.54060	.13530	1.16250	-.03503	.00390	-.00440	.00300	.61900	.04232
.201	30.220	1.06620	.59690	.14290	1.22420	-.03521	.00330	-.00280	.00100	.61600	.04558
GRADIENT	.04659	-.00235	.00192	.00192	.04915	.00006	-.00003	.00005	.00055	-.00163	.00703

TABULATED SOURCE DATA - MAIL 708 ON71A

DATE 15 NOV 75

ON71A B16C5 D7 F1J17M87 E18V3K310

(MDS041) (10 OCT 75)

REFERENCE DATA

REF = 4.1122 98.47. 100P = 43.9974 INCHES
 LAMP = 19.2299 INCHES 100P = .0000 INCHES
 REF = 37.9349 INCHES 200P = 16.5000 INCHES
 SCALE = .0403 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -19.000
 ELEVON = .000 ATLON = 5.000
 VTLINC = .000 RUDDER = .000
 SPOSK = .000 NACK/L = .200

RUN NO. 41/ 0 RVAL = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CDP	CLM	CM	CAF	CTN	COL	CT	XCP/L	CAS
.201	-4.110	-.12970	.08380	-.00840	-.12890	.08498	.00310	.01890	-.02400	.85300	.01536
.201	-2.000	-.02330	.02970	.00070	-.08440	.02991	.00580	.01820	-.02600	.87100	.01574
.201	-.980	.02990	.02970	.00230	.02940	.03022	.00350	.01910	-.02400	.83100	.01531
.201	.080	.07980	.02970	.00400	.07990	.02964	.00360	.01930	-.02400	.84100	.01577
.201	1.090	.12940	.08130	.00570	.13000	.02966	.00370	.01960	-.02500	.84400	.01597
.201	2.120	.17920	.08260	.00770	.17930	.02927	.00390	.01960	-.02500	.84400	.01636
.201	4.150	.27700	.04040	.01080	.27920	.02909	.00590	.01990	-.02600	.84600	.01593
.201	6.880	.37700	.02970	.01270	.34050	.01128	.00390	.02030	-.02700	.84600	.01590
.201	8.360	.46140	.07980	.01530	.46700	.00303	.00390	.02090	-.02700	.84700	.01636
.201	10.480	.56010	.10000	.02020	.56870	-.00656	.00600	.02070	-.02800	.84700	.01716
.201	12.510	.66940	.13330	.02480	.70200	-.01988	.00820	.02120	-.03300	.84700	.02023
.201	14.990	.79000	.17340	.02910	.80670	-.03132	.00350	.02060	-.03300	.84600	.02085
.201	16.480	.89960	.21760	.03340	.91470	-.04823	.00350	.02060	-.03300	.84600	.02377
.201	18.720	.97940	.27120	.03790	1.01340	-.06732	.00350	.01740	-.03300	.84600	.02479
.201	20.810	1.03920	.35350	.03920	1.11220	-.04456	.00350	.01660	-.03000	.84600	.02643
.201	22.490	1.10480	.41710	.04380	1.17980	-.04483	.00340	.01640	-.02400	.84600	.03166
.201	24.860	1.14410	.48240	.05160	1.24090	-.04393	.00170	.01340	-.02100	.84500	.03409
.201	26.970	1.19630	.54280	.06030	1.27870	-.03964	.00020	.00820	-.00700	.84300	.04307
.201	28.970	1.17920	.60980	.07350	1.32950	-.04050	-.00240	.00220	.00400	.84000	.05073
.201	30.990	1.18820	.68340	.08400	1.36100	-.04367	-.00140	-.00120	.00900	.83700	.05719
.201	32.950	1.18820	.76461	.09199	.04985	-.00060	.00005	.00015	-.00016	-.00159	.00008

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 708 QAT1A

PAGE 33

QAT1A 816C5 07 F1J17M87 E18V3R3X1D

(R08048) (10 OCT 73)

REFERENCE DATA

REF = 4.4122 88.FT. XREF = 43.5974 INCHES
 LREF = 19.5299 INCHES YREF = .0700 INCHES
 BREF = 37.9349 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 SOFLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTLLNC = .000 RUDDER = .000
 9FDBRK = .000 NACK/L = .200

RUN NO. 42/ 0 RV/L = 1.44 GRADIENT INTERVAL = -9.00/ 9.00

WACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CL	CY	XCP/L	CAS
.201	-4.030	-.01350	.03000	-.03110	-.01930	.02908	.00120	-.00130	-.00990	-.52900	.01770
.201	-1.930	.08710	.02980	-.04870	.08600	.03265	.00120	-.00130	-.00400	.86200	.01774
.201	-.910	.13610	.03070	-.04710	.13760	.03290	.00110	-.00160	-.00390	.78200	.01799
.201	.120	.18700	.03330	-.04630	.18710	.03295	.00100	-.00180	-.00100	.14800	.01768
.201	1.150	.23760	.03590	-.04420	.23690	.03108	.00100	-.00170	-.00200	.72600	.01793
.201	2.170	.28680	.03860	-.04280	.28810	.02895	.00100	-.00190	-.00100	.71200	.01767
.201	4.230	.36280	.04980	-.03930	.36540	.02153	.00090	-.00220	.00200	.69600	.01797
.201	6.340	.46890	.06640	-.03630	.48120	.01228	.00080	-.00220	.00200	.68700	.01815
.201	8.400	.56990	.09190	-.03530	.59800	.00466	.00100	-.00180	-.00100	.68100	.01820
.201	10.490	.66940	.12230	-.03020	.70010	-.00532	.00100	-.00210	.00200	.67500	.01897
.201	12.570	.76430	.15920	-.02590	.80980	-.01749	.00060	-.00200	.00200	.67100	.02044
.201	14.660	.85500	.20230	-.02190	.91710	-.03091	.00090	-.00180	.00200	.66800	.02208
.201	16.710	.94200	.24960	-.01890	1.01900	-.04535	.00130	-.00150	.00200	.66300	.02433
.201	18.830	1.02720	.31470	-.01460	1.13060	-.05311	.00130	-.00170	-.00700	.66400	.02803
.201	20.960	1.14680	.39540	-.01040	1.21840	-.05690	.00130	-.00190	.00100	.66300	.03008
.201	22.900	1.18500	.46040	.00160	1.26900	-.03627	.00230	-.00150	.01200	.65900	.03294
.201	24.940	1.20970	.52120	.01320	1.31670	-.03769	.00240	-.00240	.00200	.65600	.03742
.201	26.990	1.21330	.57920	.02660	1.34400	-.03474	.00240	-.00480	.00400	.65200	.04680
.201	29.000	1.21690	.63490	.04060	1.37220	-.03477	.00330	-.00190	.00200	.64900	.05519
.201	31.020	1.21640	.69050	.05430	1.39850	-.03479	.00270	-.00160	.00200	.64600	.05815
.201			.00242	.00144	.04864	-.00091	-.00004	-.00079	.00762	.11526	.07003

GRADIENT

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 706 ON71A

PAGE 34

ON71A 816C5 D7 F1J17A87 E18V3K3X10

(R08043) (10 OCT 75)

REFERENCE DATA

REF = 4.4122 98.47. XREF = 43.9874 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 SREF = 37.9349 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 43/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPCSRK = .000 NACK/L = .200

MACH	ALPHA	CL	CLM	CLN	CAF	CYN	CSL	CY	XCP/L	CAB
.801	-4.080	-1.12310	.03190	-.00800	.02535	.00130	-.00190	-.00500	.63400	.01929
.801	-2.000	-.02140	.02760	-.02240	.02709	.00120	-.00190	-.00500	.67100	.01950
.801	-.9770	.09040	.02740	.03000	.02796	.00110	-.00190	-.00400	.63000	.01540
.801	.000	.08000	.02600	.04410	.02792	.00120	-.00170	-.00400	.64100	.01561
.801	1.080	.12790	.02900	.13040	.02695	.00090	-.00210	.00000	.64400	.01551
.801	2.110	.17740	.03110	.17840	.02459	.00110	-.00190	-.00100	.64600	.01568
.801	4.160	.27770	.03790	.27970	.01737	.00090	-.00210	.00000	.64800	.01565
.801	6.280	.37940	.04040	.38270	.00675	.00070	-.00220	.00000	.64900	.01581
.801	8.330	.46120	.04100	.46640	.00032	.00100	-.00210	.00000	.64900	.01632
.801	10.420	.56180	.04190	.56990	-.00039	.00130	-.00190	.00000	.64700	.01721
.801	12.500	.66760	.04250	.67920	-.02169	.00100	-.00190	.00000	.64700	.01685
.801	14.580	.76880	.04290	.78020	-.03475	.00090	-.00190	.00000	.64700	.02034
.801	16.660	.86190	.04340	.88020	-.04264	.00090	-.00190	.00000	.64700	.02266
.801	18.750	.96320	.04380	.98900	-.05066	.00080	-.00190	-.00300	.64800	.02447
.801	20.800	1.06380	.04420	1.12030	-.04710	.00080	-.00190	.00100	.64900	.02793
.801	22.870	1.11170	.04450	1.18890	-.04674	.00150	-.00090	.00100	.64700	.03105
.801	24.910	1.14950	.04480	1.24570	-.04690	.00280	-.00310	.00100	.64500	.03428
.801	26.940	1.16070	.04520	.05620	-.04210	.00200	-.00290	.00700	.64300	.04194
.801	28.920	1.17040	.04550	1.32350	-.04262	.00180	-.00290	.00300	.64100	.05023
.801	30.990	1.18350	.04580	1.35550	-.04193	.00190	-.07340	.00800	.63900	.05331
.801	GRADIENT	.04845	.00075	.04892	-.00064	-.00005	-.00005	.00074	-.00157	.00007

ON71A 816C5 D7 F1J17A87 E18V3K3X10

(R08044) (10 OCT 75)

REFERENCE DATA

REF = 4.4122 98.47. XREF = 43.9874 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 SREF = 37.9349 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPCSRK = .000 NACK/L = .200

RUN NO. 44/ 0 RV/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CYN	CSL	CY	XCP/L	CAB
.801	-18.120	.08970	.01460	.09570	.01460	-.00960	-.00060	.23100	.66500	.01955
.801	-5.090	.08490	.02320	.08320	.02317	-.00330	.00000	.11600	.66200	.01710
.801	-.010	.07930	.02650	.07930	.02630	.00110	-.00190	-.00200	.64400	.01536
.801	5.030	.06310	.02420	.06310	.02414	.00940	-.00330	-.11900	.66100	.01556
.801	10.110	.06910	.01470	.06910	.01466	.00700	-.00290	-.23600	.66800	.01927
.801	GRADIENT	-.00016	.00010	-.00019	.00010	.00066	-.00033	-.02327	-.00010	-.00015

DATE 19 NOV 72

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 33

ON71A B18C5 D7 F1J17M87 E18VSR3X10

(R05045) (10 OCT 73)

REFERENCE DATA

REF = 4.4122 84. FT. XAPP = 43.9974 INCHES
LREF = 19.2299 INCHES YAPP = .0000 INCHES
BREF = 37.9349 INCHES ZAPP = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 45/ 0 RV/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLF	CLM	CM	CAF	CVM	CBL	CY	XCP/L	CAS
.201	-10.110	.58430	.06790	.01090	.59050	-.01926	-.00260	.01860	.23400	.65300	.02214
.201	-5.1060	.58500	.06560	.01970	.59230	-.01363	-.00210	.00670	.11500	.65000	.01855
.201	.000	.58640	.05820	.02050	.59060	-.00676	.00130	-.00160	.00000	.64700	.01696
.201	5.050	.58190	.09430	.01660	.58940	-.01247	.00330	-.01000	-.11000	.64900	.01809
.201	10.120	.58160	.06680	.01060	.58610	-.01773	.00460	-.01610	-.23100	.65300	.02209
GRADIENT		-.00031	.00005	.00009	-.00029	.00012	.00033	-.00165	-.00226	-.00010	-.00005

PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -16.000
ELEVON = .000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .200

ON71A B18C5 D7 F1J17M87 E18VSR3X10

(R05046) (10 OCT 73)

REFERENCE DATA

REF = 4.4122 84. FT. XAPP = 43.9974 INCHES
LREF = 19.2299 INCHES YAPP = .0000 INCHES
BREF = 37.9349 INCHES ZAPP = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 46/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CLF	CLM	CM	CAF	CVM	CBL	CY	XCP/L	CAS
.201	-4.070	-.12090	.03140	-.00340	-.12280	.02279	.00130	-.00170	-.00600	.64900	.01532
.201	-2.020	-.01660	.02770	.00030	-.01950	.02705	.00100	-.00160	-.00400	.36670	.01544
.201	-.960	.03230	.02710	.00240	.03180	.02766	.00150	-.00150	-.00500	.63270	.01571
.201	.050	.06220	.02810	.00430	.06220	.02803	.00790	-.00150	-.00400	.64000	.01534
.201	1.060	.13270	.02920	.00650	.13320	.02673	.00760	-.00160	-.00300	.64270	.01594
.201	2.130	.18400	.03170	.00870	.18510	.02482	.00780	-.00160	-.00300	.64370	.01549
.201	4.190	.28330	.03640	.01290	.28540	.01765	.00730	-.00230	.00000	.64300	.01607
.201	6.260	.36400	.05190	.01660	.36740	.00917	.00740	-.00220	.00000	.64400	.01564
.201	8.360	.48470	.07160	.02090	.49001	.00036	.00730	-.00230	.00000	.64400	.01619
.201	10.410	.56940	.05790	.02760	.59340	-.00949	.00760	-.00170	-.00100	.64370	.01741
.201	12.520	.69060	.13150	.03240	.70230	-.02134	.00070	-.00170	-.00200	.64300	.01091
.201	14.590	.78870	.17030	.03650	.80610	-.03362	.00010	-.00200	.00000	.64270	.02013
.201	16.660	.86510	.21490	.04510	.90950	-.04792	.00030	-.00160	.00000	.64270	.02105
.201	18.730	.96070	.27780	.04560	1.01800	-.05232	.00020	-.00050	-.00170	.64300	.02313
.201	20.790	1.03900	.35530	.04490	1.09750	-.03669	.00170	.00030	-.00200	.64370	.02625
.201	22.840	1.09300	.42000	.05390	1.17210	-.03853	.00210	-.00210	.00000	.64370	.02764
.201	24.910	1.12100	.47660	.06600	1.21640	-.03906	.00140	-.00130	.00100	.64000	.03080
.201	26.930	1.12990	.54020	.07140	1.25270	-.03027	.00060	-.00170	.00300	.63900	.03584
.201	28.950	1.19370	.59690	.08330	1.30120	-.03336	.00030	-.00260	.00600	.63700	.04931
.201	30.970	1.13170	.65330	.09440	1.32370	-.03250	.00010	-.00310	.00900	.63400	.05303
GRADIENT		.04693	.00066	.00196	.04041	-.00060	-.00011	-.00005	.00064	-.00139	.00007

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000
ELEVON = .000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = .000 NACK/L = .000

CAT1A B16C3 D7 F1J17M87 E18V8R3X10

(RDSU47) (10 OCT 73)

REFERENCE DATA

REF = 4.4122 98.47. YARP = 43.9974 INCHES
 LREF = 19.2299 INCHES YARP = .0000 INCHES
 REF = 37.9349 INCHES ZARP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 47/ 0 RV/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CSL	CY	XCP/L	CAS
.201	-10.100	.08990	.01340	-.00990	.05490	.01330	-.00350	-.00110	.23300	.68100	.02027
.201	-5.050	.08990	.02320	.00060	.08690	.02317	-.00290	.00020	.11900	.69700	.01674
.201	.000	.08290	.02790	.00460	.08290	.02782	.00060	-.00150	-.00200	.63900	.01558
.201	5.040	.08290	.02270	.00020	.08290	.02264	.00400	-.00320	-.11700	.69600	.01657
.201	10.130	.08110	.01270	-.00630	.09110	.01272	.00930	-.00210	-.23700	.68400	.02019
GRADIENT	-.00060	-.00005	-.00005	-.00004	-.00060	-.00075	.00064	-.00034	-.02299	.00010	-.00002

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = .000 NACK/L = .000

CAT1A B16C3 D7 F1J17M87 E18V8R3X10

(RDSU48) (10 OCT 73)

REFERENCE DATA

REF = 4.4122 98.47. YARP = 43.9974 INCHES
 LREF = 19.2299 INCHES YARP = .0000 INCHES
 REF = 37.9349 INCHES ZARP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 48/ 0 RV/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CSL	CY	XCP/L	CAS
.201	-10.100	.08780	.08990	.01740	.09400	-.01868	-.00120	.01240	.23100	.64900	.02202
.201	-5.050	.08640	.09200	.02240	.09390	-.01286	-.00140	.00720	.11200	.64600	.01824
.201	.010	.08700	.08660	.02600	.09520	-.00915	.00060	-.00130	.00000	.64300	.01736
.201	5.020	.08460	.09450	.02260	.09210	-.01269	.00160	-.01000	-.10900	.64600	.01634
.201	10.130	.08340	.08970	.01660	.09000	-.01716	.00160	-.01620	-.22800	.64900	.02201
GRADIENT	-.00036	-.00005	-.00005	.00004	-.00036	.00002	.00030	-.00170	-.02166	-.00000	.00003

PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = .000 NACK/L = .000

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 706 OAT1A

PAGE 37

OAT1A 816C5 D7 F1317467 E18V838310

(R08049) (10 OCT 75)

REFERENCE DATA

8827 = 4.4122 98.FT. 108P = 43.9974 INCHES
L4E7 = 19.2299 14CHES YMRP = .0000 INCHES
8827 = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 49/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 BOPLAP = -18.000
ELEVON = 5.000 AILRON = .000
VTLINE = .000 RUDDER = .000
SPDRK = .000 NACK/L = .000

WACH	ALPHA	CL	CDP	CLN	CN	CAF	CYN	CSL	CT	XCP/L	CAB
.201	-4.040	-.0130	.03010	-.05240	-.01340	.02929	.00120	-.00120	-.00400	-.73900	.01760
.201	-1.980	.09200	.05000	-.04920	.09100	.03319	.00090	-.00120	-.00300	.63000	.01777
.201	-.920	.14190	.03100	-.04760	.14100	.03329	.00100	-.00120	-.00300	.78000	.01783
.201	.110	.19430	.03310	-.04510	.19430	.03275	.00090	-.00130	-.00200	.74200	.01814
.201	1.140	.24310	.03620	-.04320	.24360	.03139	.00070	-.00130	.00200	.72300	.01832
.201	2.170	.29320	.04020	-.04090	.29460	.02909	.00060	-.00170	.00300	.70900	.01799
.201	4.270	.34280	.05150	-.03710	.34560	.02207	.00040	-.00190	.00000	.69300	.01760
.201	6.530	.49170	.06770	-.03420	.49610	.01311	.00040	-.00170	.00000	.66400	.01769
.201	8.410	.59120	.09180	-.02850	.59820	.00433	.00050	-.00160	.00000	.67700	.01828
.201	10.490	.68270	.12240	-.02230	.70340	-.00582	.00060	-.00160	.00000	.67100	.01915
.201	12.560	.79980	.15950	-.01680	.81190	-.01750	.00030	-.00140	.00000	.66700	.02052
.201	14.650	.89140	.20147	-.01050	.91340	-.03032	.00070	-.00100	.00000	.66400	.02162
.201	16.710	.96220	.24820	-.00290	1.01210	-.04465	.00070	-.00160	-.00100	.66000	.02237
.201	18.790	1.06020	.31820	-.00440	1.12510	-.04376	.00490	.00040	-.00600	.66100	.02478
.201	20.850	1.13000	.39160	.00590	1.17950	-.02968	.00290	.00160	-.00400	.65800	.02624
.201	22.890	1.19710	.45590	.01680	1.24330	-.03011	.00290	-.00190	-.00100	.65500	.03022
.201	24.920	1.18780	.51340	.03360	1.27530	-.02636	.00120	-.00300	.00000	.65000	.03351
.201	26.940	1.16030	.57110	.04510	1.31100	-.02569	.00100	-.00100	.00000	.64700	.04487
.201	28.960	1.19310	.63020	.05900	1.34910	-.02679	.00050	-.00440	.01000	.64500	.03386
.201	30.980	1.16310	.68100	.07020	1.36490	-.02527	.00030	-.00140	.00300	.64100	.03745
.201	GRADIENT	.04686	.00255	.00169	.04926	-.00090	-.00009	-.00009	.00357	.12364	.00001

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL T08 QAT1A

PAGE 38

QAT1A B16C5 D7 F1J17M07 E18V3R3X10

(RD5050) (10 OCT 75)

REFERENCE DATA

SWEP = 4.4122 98.FT. SWEP = 43.5974 INCHES
LREF = 19.8299 INCHES YREF = .0000 INCHES
BREF = 37.9349 INCHES ZREF = 16.2000 INCHES
SCALE = .0403 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = .000 AILRON = 5.000
VTLINE = .000 RUCCER = .000
SPDRK = .000 NACX/L = .000

RUN NO. 50/ 0 RV/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

NAME	ALPHA	CL	CDP	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.060	-.11920	.03960	-.00450	-.12130	.02511	.00460	.01910	-.02300	.64600	.01613
.201	-2.000	-.01810	.03010	-.00040	-.01910	.02949	.00300	.01930	-.02400	.63100	.01561
.201	-.960	.03750	.02990	.00170	.03690	.03061	.00490	.01960	-.02400	.64200	.01596
.201	.080	.06650	.03020	.00560	.06650	.03013	.00513	.01980	-.02400	.64400	.01639
.201	1.090	.13540	.03160	.00560	.13600	.02922	.00310	.01990	-.02400	.64400	.01699
.201	2.130	.18790	.03410	.00660	.18650	.02716	.00310	.02020	-.02500	.64300	.01645
.201	4.200	.26530	.04130	.01310	.26760	.02035	.00900	.02010	-.02400	.64300	.01676
.201	6.270	.36500	.05460	.01630	.36870	.01224	.00820	.02050	-.02500	.64400	.01632
.201	8.340	.46360	.07450	.02150	.49160	.00321	.00320	.02110	-.02700	.64400	.01680
.201	10.430	.56540	.10100	.02820	.59400	-.00662	.00900	.02150	-.02900	.64200	.01731
.201	12.490	.66660	.13360	.03330	.69930	-.01779	.00490	.02150	-.03000	.64200	.01836
.201	14.590	.76910	.17510	.03950	.80730	-.03132	.00460	.02060	-.03300	.64100	.01953
.201	16.670	.86200	.21670	.04660	.90710	-.04553	.00350	.02590	-.03200	.64300	.02061
.201	18.730	.96420	.26200	.04990	1.00360	-.04256	.00340	.02590	-.03700	.64300	.02308
.201	20.800	1.05120	.35460	.04600	1.06990	-.03469	.00300	.02040	-.03100	.64400	.02345
.201	22.840	1.08420	.41790	.03750	1.16130	-.03619	.00350	.01410	-.02200	.64200	.02737
.201	24.900	1.11160	.47870	.06910	1.21000	-.03403	.00130	.00900	-.01000	.63900	.03048
.201	26.830	1.12600	.53620	.07440	1.24950	-.03112	.00000	.00740	-.00100	.63800	.04317
.201	28.950	1.14530	.59560	.06600	1.29050	-.03330	.00090	.00230	.00900	.63600	.05134
.201	30.980	1.14670	.65360	.06690	1.31950	-.03006	.00020	.00160	.01200	.63300	.05406
GRADIENT		.04697	.00094	.00213	.04931	-.00056	.00005	.00014	-.00014	-.00060	.00011

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 708 ON71A

PAGE 39

ON71A B16C5 07 F1J17A87 E18VSR3X10

(R05051) (10 OCT 73)

REFERENCE DATA

SRP = 4.4122 88. FT. XRP = 43.5974 INCHES
LREF = 19.2239 INCHES YRP = .0000 INCHES
BRP = 37.9349 INCHES ZRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
ELEVON = -10.000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPBRK = .000 NACK/L = .000

RUN NO. 51/ 0 RW/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

INCH	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.250	-3.4070	.04890	.08640	-3.3340	.02367	.00050	-.00190	-.00800	.75200	.01111
.201	-2.152	-.23690	.03610	.08260	-.23820	.02356	.00030	-.00160	-.00500	.79900	.01104
.201	-1.100	-.16620	.03460	.09410	-.16680	.03107	.00010	-.00150	-.00500	.84000	.01097
.201	-.020	-.13350	.03120	.09670	-.13350	.03114	.00020	-.00140	-.00500	.91900	.01108
.201	.960	-.08060	.03010	.09910	-.08010	.03146	.00020	-.00140	-.00400	1.10200	.01140
.201	2.010	-.03030	.02960	.10110	-.02920	.02974	.00020	-.00120	-.00400	1.89400	.01191
.201	4.060	.07560	.03010	.10610	.07590	.02479	.00010	-.00120	-.00300	.15800	.01132
.201	6.120	.19810	.03520	.11180	.17190	.01669	.00000	-.00150	-.00200	.42700	.01162
.201	8.230	.28970	.04670	.11780	.27560	.00765	.00030	-.00190	-.00100	.50500	.01169
.201	10.310	.36980	.06820	.12530	.37570	-.00103	.00030	-.00170	-.00200	.54000	.01305
.201	12.390	.47500	.09170	.13140	.48170	-.01190	.00040	-.00210	-.00000	.56200	.01467
.201	14.470	.57520	.12290	.13720	.58580	-.02424	.00070	-.00210	-.00100	.57600	.01614
.201	16.540	.67350	.15970	.14330	.69090	-.03659	.00090	-.00220	-.00000	.58500	.01764
.201	18.620	.76880	.21960	.13690	.79890	-.03704	.01000	.00120	-.02000	.59700	.01993
.201	20.690	.84900	.28820	.13460	.89600	-.03043	.00170	-.00040	-.00100	.60600	.02182
.201	22.750	.91940	.34540	.13980	.98140	-.03711	.00250	-.00170	-.00100	.61900	.02393
.201	24.810	.97440	.41140	.14010	1.05710	-.03549	.00180	-.00160	.00400	.61200	.02563
.201	26.890	1.01280	.47640	.14170	1.11860	-.03315	.00100	-.00460	.00700	.61400	.03357
.201	28.910	1.04830	.53630	.14810	1.17690	-.03604	.00220	-.00290	.00600	.61500	.04036
.201	30.910	1.05650	.59240	.15690	1.21250	-.03560	.00040	-.00400	.01000	.61300	.04519
.201	GRADIENT	.04995	-.00227	.00213	.03051	.00013	-.00004	.00009	.00034	.00177	.00007

DATE 15 NOV 75

TABULATED SOURCE DATA - NAAL 706 ON71A

PAGE 40

ON71A B16C5 D7 F1J17A87 E18V3K3X110

(RDS052) (10 OCT 75)

REFERENCE DATA

SRP = 4.4122 INCHES
LWR = 19.2299 INCHES
P' D' = 37.8549 INCHES
SCALE = .0405 SCALE

BETA = .000
ELEVON = .000
VTLINE = .000
SPDRK = .000

PARAMETRIC DATA

BOFLAP = -16.000
AILRON = 10.000
RUDDER = .000
NACX/L = .000

RUN NO. 52/ 0. RN/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

NACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CBL	CY	KCP/L	CAS
.001	-4.000	-1.0760	.04000	-.00930	-.11020	.03233	.00700	.03690	-.04100	.62900	.01828
.001	-2.000	-.00900	.03710	-.00540	-.00610	.03699	.00770	.03740	-.04300	.42000	.01810
.001	-.970	.04590	.03720	-.00290	.04290	.03799	.00790	.03780	-.04400	.66400	.01799
.001	.030	.09480	.03780	-.00080	.09480	.03774	.00810	.03780	-.04500	.66300	.01808
.001	1.100	.14420	.03820	.00200	.14500	.03643	.00830	.03820	-.04700	.65100	.01839
.001	2.120	.19300	.04170	.00480	.19440	.03443	.00830	.03820	-.04700	.65100	.01788
.001	4.210	.28780	.04930	.01020	.29080	.02807	.00860	.03990	-.05200	.64700	.01801
.001	6.230	.36880	.06230	.01340	.36310	.01964	.00890	.03990	-.05200	.64700	.01805
.001	8.340	.44630	.08200	.01930	.49310	.01062	.00870	.04030	-.05500	.64500	.01789
.001	10.430	.58720	.10650	.02610	.59740	.00136	.00860	.04090	-.05600	.64400	.01844
.001	12.500	.68980	.14280	.03370	.75370	-.00997	.00860	.04110	-.05900	.64200	.01914
.001	14.580	.76820	.18180	.04030	.80850	-.02290	.00880	.04120	-.05900	.64200	.02029
.001	16.670	.86090	.22480	.04690	.90830	-.03737	.00870	.04060	-.06300	.64100	.02185
.001	18.730	.96890	.29030	.04990	1.00320	-.03428	.01780	.04440	-.08100	.64300	.02350
.001	20.790	1.01640	.39970	.05000	1.07970	-.02525	.00700	.03640	-.09300	.64300	.02610
.001	22.850	1.07000	.42200	.05900	1.14990	-.02670	.00420	.02780	-.04000	.64100	.02942
.001	24.880	1.09980	.48080	.07270	1.19990	-.02643	.00130	.01920	-.02300	.63800	.03366
.001	26.950	1.11110	.53780	.08030	1.23420	-.02586	.00000	.01260	-.00400	.63600	.04419
.001	28.950	1.13450	.59710	.08790	1.26180	-.02670	.00120	.01080	.00100	.63300	.05258
.001	30.980	1.14170	.65570	.10050	1.31610	-.02597	.00130	.00860	.01000	.63200	.05623
GRADIENT		.04763	.00111	.00237	.04848	-.00054	.00016	.00020	-.00104	.01194	-.00003

DATE 19 NOV 73

TABULATED SOURCE DATA - NAAL 706 ON71A

PAGE 41

ON71A 816C5 D7 F1J17M87 E18V83X10

(R03054) (10 OCT 73)

REFERENCE DATA

WREF = 4.4122 94.FT. XREF = 43.5974 INCHES
LREF = 19.2299 INCHES YREF = .0000 INCHES
SREF = 37.9349 INCHES ZREF = 16.2000 INCHES
SCALE = .0425 SCALE

RUN NO. 54/ 0 RW/L = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 DOFLAP = -10.000
ELEVON = 10.000 AILRON = .000
VTILNC = .000 RUDDER = .000
SPDRK = .000 NACX/L = .000

WACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-3.960	.09160	.03440	-.10020	.06900	.04071	.00050	-.00160	-.00200	1.06800	.02050
.201	-1.960	.19080	.03750	-.05630	.18950	.04376	.00040	-.00170	-.00100	.84100	.02042
.201	-.850	.24030	.04040	-.09410	.23970	.04397	.00030	-.00160	.00000	.60000	.01986
.201	-.180	.29120	.04380	-.09180	.29130	.04288	.00040	-.00160	.00000	.77200	.02036
.201	1.220	.33630	.04670	-.08960	.33950	.04153	.00040	-.00200	.00000	.75400	.01972
.201	2.250	.36910	.05410	-.08670	.39100	.03678	.00030	-.00190	.00000	.73900	.01990
.201	4.300	.48460	.06630	-.08320	.48630	.03162	.00030	-.00230	.00000	.72000	.01937
.201	6.570	.56710	.08890	-.08150	.59330	.02281	.00010	-.00200	.00000	.70800	.01930
.201	8.460	.66430	.11660	-.07360	.69400	.01462	.00010	-.00240	.00000	.69800	.01917
.201	10.530	.76500	.15010	-.06200	.79730	.00447	.00000	-.00280	.00100	.68400	.02014
.201	12.620	.86500	.19070	-.05450	.90590	-.00752	-.00010	-.00200	.00200	.67900	.02283
.201	14.710	.96020	.23570	-.04790	1.11110	-.03421	.00230	-.00360	-.00500	.67500	.02361
.201	16.770	1.07370	.26760	-.04590	1.20470	-.02427	.00190	-.00100	-.00100	.67300	.02642
.201	18.840	1.14800	.36610	-.02760	1.24240	-.01598	.00330	.00260	-.00500	.66700	.03026
.201	20.880	1.16690	.42790	-.01260	1.29790	-.01341	.00180	-.00340	.00100	.66300	.03297
.201	22.930	1.20060	.49340	.00980	1.31480	-.01134	.00100	-.00230	.00100	.65700	.03675
.201	24.940	1.19690	.54430	.02320	1.34140	-.01316	.00140	-.00300	.00400	.65300	.04833
.201	26.970	1.20140	.59690	.03510	1.37650	-.01329	.00090	-.00230	.00500	.65000	.05509
.201	29.000	1.21210	.65670	.05210	1.39950	-.01322	.00040	-.00000	.00200	.64600	.05912
.201	31.000	1.19780	.70430	.03210	.04624	-.00110	-.00002	-.00008	.00023	-.00721	-.00013
.201	GRADIENT	.04746	.00407	.00210							

DATE 18 NOV 73

TABULATED SOURCE DATA - NAL T08 0471A

PAGE 48

0471A BLOCK 07 P1317407 E18V2R3H10

(000000) (10 OCT 73)

REFERENCE DATA

SWP = 4.4122 INCHES
LWP = 19.8299 INCHES
MWP = 37.8349 INCHES
SCALE = .0405 SCALE

BETA = .000
ELEVON = -80.000
VTLINE = .000
STDBRK = .000

PARAMETRIC DATA

RUN NO. 96/ 0 REV/L 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CTF	CLX	CH	CAF	CYN	CBL	CY	XCP/L	CAB
.801	-4.310	-.82100	.07980	.17310	-.50640	.04037	.00060	-.00240	-.00400	.77000	.00913
.801	-2.250	-.41000	.04330	.16000	-.42000	.04005	.00010	-.00190	-.00400	.80100	.00673
.801	-1.850	-.34670	.05660	.16000	-.36780	.04002	.00220	-.00170	-.00300	.82400	.00936
.801	-.170	-.31420	.03250	.16000	-.31440	.05140	.00090	-.00210	-.00400	.83300	.00634
.801	.000	-.25180	.04760	.16000	-.25090	.0.144	.00030	-.00340	-.00200	.90100	.00936
.801	1.800	-.19000	.04430	.17010	-.19340	.05001	.00010	-.00390	-.00100	.97400	.00905
.801	3.970	-.09000	.03980	.17310	-.06770	.04541	.00010	-.00410	.00000	1.36500	.00963
.801	6.040	.00000	.03920	.16150	.00450	.03097	-.00010	-.00480	.00000	-13.69700	.00963
.801	8.120	.00000	.04310	.18280	.08660	.03131	-.00020	-.00360	.00000	-.03600	.00953
.801	10.170	.07790	.05670	.20470	.18310	.02440	.00050	-.0.20	.00100	.26400	.01028
.801	12.250	.27230	.07150	.21490	.28120	.01206	.00030	-.00100	.00000	.36600	.01208
.801	14.380	.37100	.09560	.22500	.36310	.00081	.00040	-.00070	.00000	.49100	.01346
.801	16.410	.46610	.12370	.23080	.48450	-.01157	.00000	-.00060	.00000	.69900	.01473
.801	18.490	.57770	.16700	.21810	.60720	-.00506	.00050	-.00050	.00000	.93100	.01652
.801	20.370	.64090	.23090	.22240	.70050	-.01426	.00240	-.00030	-.00200	.54600	.01856
.801	22.640	.79650	.39090	.22340	.76960	-.02021	.00250	-.00050	-.00200	.59600	.01464
.801	24.720	.81340	.42010	.21730	.86560	-.02145	.00140	-.00440	.00400	.57200	.02364
.801	26.770	.87170	.42010	.250	.96750	-.01761	.00130	-.00350	.00400	.56100	.02928
.801	28.800	.91680	.47930	.21600	1.03610	-.02301	.00160	-.00390	.00400	.58500	.03393
.801	30.640	.94620	.53600	.22030	1.09040	-.02340	.00130	-.00380	.00500	.56700	.03811
.801	GRADIENT	.33280	-.00462	.0.106	.03351	.00070	-.00004	-.00029	.00053	.06447	.07010

DATE 15 NOV 73

TABULATED SOURCE DATA - NAAL 706 CNT1A

PAGE 43

CNT1A 818C5 D7 F1J17487 E18V3KX10

(RDS057) (10 OCT 73)

REFERENCE DATA

BRDF = 4.4122 98.17. YARP = 43.9974 INCHES
 LREF = 19.2299 INCHES YARP = .0000 INCHES
 BRDF = 37.9349 INCHES ZAP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
 ELEVON = .000 AILRON = 19.000
 VTLINE = .000 RUDDER = .000
 SPORR = .000 NACK/L = .000

PARAMETRIC DATA

RUN NO. 57/0 RAWL = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	KCP/L	CAB
.01	-4.090	-1.0010	.09100	-.01280	-.10340	.04360	.01000	.03960	-.03900	.61600	.01841
.02	-2.000	-.00080	.04610	-.00740	-.03250	.04806	.01060	.03630	-.06200	-.37800	.01854
.03	-.960	.04970	.04770	-.00440	.04890	.04954	.01100	.03720	-.06500	.69200	.01922
.04	.090	.09560	.04640	-.00200	.09580	.04836	.01140	.03750	-.06700	.66700	.01898
.05	1.090	.4960	.05010	.00100	.14690	.04732	.01170	.03790	-.06900	.63700	.01920
.06	2.140	.19410	.03210	.00430	.19590	.04487	.01200	.03810	-.07100	.63100	.01954
.07	4.200	.28540	.05970	.01060	.26900	.03666	.01250	.03780	-.07300	.64600	.01902
.08	6.270	.36690	.07330	.01370	.39260	.03062	.01300	.06010	-.07800	.64700	.01924
.09	8.360	.46400	.09300	.02020	.49240	.02172	.01340	.06190	-.08200	.64500	.01926
.10	10.430	.56190	.11960	.02940	.59400	.01730	.01360	.06330	-.08600	.64200	.02026
.11	12.500	.67900	.15220	.03530	.69600	.00256	.01390	.06360	-.08800	.64100	.01972
.12	14.590	.78010	.19180	.04320	.80330	-.01067	.01370	.06340	-.09000	.63900	.02122
.13	16.670	.87050	.23420	.05250	.90110	-.02534	.01260	.06200	-.09200	.63900	.02169
.14	18.750	.95370	.29790	.06130	.99890	-.02416	.02010	.06340	-.10400	.64100	.02402
.15	20.770	.99700	.36470	.06990	1.06190	-.01261	.00800	.03100	-.07000	.63900	.02746
.16	22.820	1.02970	.42060	.07140	1.11130	-.01144	.00430	.03670	-.03100	.63600	.02955
.17	24.860	1.06240	.47740	.06460	1.16460	-.01364	.00060	.02940	-.02900	.63400	.03645
.18	26.800	1.08660	.53630	.06810	1.21360	-.01419	.00010	.02260	-.01200	.63400	.04813
.19	28.850	1.10630	.59500	.09730	1.25760	-.01950	.00190	.01600	-.00400	.63200	.05346
.20	30.890	1.12160	.65140	.10970	1.29700	-.01841	.00220	.01410	.00400	.62900	.05692
.21	32.930	.04663	.00104	.00261	.04746	-.00064	.00126	.00129	-.00179	.04907	.00010

GRADIENT